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ABSTRACT

This yearbook focuses on the person-to-person relationship between teacher and learners. The contributing authors discuss the uses of subject matter and processes which help teachers find individual learners in groups. The book argues that the child must be involved as a partner in inquiry and in shaping content. (JF)

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Individualizing Instruction

Prepared by
the ASCD 1964 Yearbook Committee
Ronald C. Doll, Editor and Chairman

Association for
Supervision and Curriculum Development
1201 Sixteenth Street, N.W.
Washington, D.C. 20036

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Foreword

A YEARBOOK is an expression of the concerns and ideals of the organization that produces it. It represents a decision to expend the resources of the association and the energies of the members of the committee who are asked to prepare it.

It is obvious that the Association for Supervision and Curriculum Development assumes that each individual is valuable and the development of his potential important. The 1962 yearbook, *Perceiving, Behaving, Becoming,* was a statement of the thesis that the individual perceives, interprets and integrates uniquely in terms of his previous experiences and present needs and purposes. School programs not based on this premise are not significant, relevant or even helpful to many students. The 1963 yearbook, *New Insights and the Curriculum,* used evidence from seven fields to suggest curricular procedures and designs which permit teachers to more adequately promote the development of the socially acceptable potential of all children.

This yearbook, *Individualizing Instruction,* focuses on the primary dimension of education—the person to person relationship between teacher and learners.

From DeHaan and Doll's assertion that the committee chose to discuss the intricate uses of subject matter and the processes which help teachers find individual learners in groups, Macdonald's beautiful interpretation of the nature of man, Minor's proclamation that the child must be involved as a partner in inquiry and in shaping content, proposed techniques for individualizing instruction by Zirbes and the committee to the report of the discussion of four administrators concerning their role in helping teachers, the yearbook is an attempt to describe how an insightful teacher can discover human potential and provide opportunities for its release and development.

Without question, the yearbook is not a description of current practice. If schools had already achieved these ideals, there would be no point to preparing this statement. Leaders in educational thought must constantly attempt to raise the horizons. Man's reach "Should exceed his grasp or what is a heaven for?"

Individualizing Instruction should cause all of us to stop, question, evaluate, hypothesize and renew our commitment to providing the best possible education for each child and youth for whom we are responsible.

On behalf of the Executive Committee and the membership of ASCD, I wish to express appreciation to each member of the Committee and others who have helped the Committee and the ASCD Staff for the contribution each has made to *Individualizing Instruction.*

December 1963

Kimball Wiles, *President*
Association for Supervision
and Curriculum Development

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Robert R. Leeper, editor and associate secretary, ASCD, worked with the yearbook from its inception, edited the final manuscript, and was in charge of production of the volume.

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Introduction/The Need and the Setting

Jeff West and Ronald C. Doll

IN 1944, Stephen M. Corey described a lovable but lost adolescent in an article titled "The Poor Scholar's Soliloquy." The author made it clear that the hero, a seventh grade repeater, was alienated from his teachers and his schooling but not from his peers and his out-of-school world. Concerning his own educational experience, the adolescent reported:

> I don't know why the teachers don't like me. They never have very much. Seems like they don't think you know anything unless they can name the book it comes out of. . . .
>
> I guess I just can't remember names in history. Anyway, this year I've been trying to learn about trucks because my uncle owns three and he says I can drive one when I'm sixteen. I already know the horsepower and number of forward and backward speeds of twenty-six American trucks, some of them Diesels, and I can spot each make a long way off. It's funny how that Diesel works. I started to tell my teacher about it last Wednesday in science class when the pump we were using to make a vacuum in a bell jar got hot, but she said she didn't see what a Diesel engine had to do with our experiment on air pressure so I just kept still. . . .[1]

Corey's problem pupil had trouble writing a composition about "What a Daffodil Thinks of Spring." Furthermore, he could not solve the following arithmetic problem: "If a 57 foot telephone pole falls across a cement highway so that $17\frac{3}{6}$ feet extend from one side and $14\frac{9}{17}$ feet from the other, how wide is the highway?" His difficulty, he said came from his inability to know "whether the pole had fallen straight across or not." [2]

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[1] Reprinted by permission of the Association for Childhood Education International, 3615 Wisconsin Avenue, N. W., Washington 16, D. C. "The Poor Scholar's Soliloquy," by Stephen M. Corey. From *Childhood Education*, January 1944, Vol. 20, No. 5.

[2] *Ibid.*

The young adolescent then concluded his report:

> Even in shop I don't get very good grades. All of us kids made a broom holder and a bookend this term and mine were sloppy. I just couldn't get interested. Mom doesn't use a broom any more with her new vacuum cleaner and all our books are in a bookcase with glass doors in the parlor. Anyway, I wanted to make an end gate for my uncle's trailer but the shop teacher said that meant using metal and wood both and I'd have to learn how to work with wood first. I didn't see why but I kept still and made a tie rack at school and the tail gate after school at my uncle's garage. He said I saved him $10.
>
> Civics is hard for me, too. I've been staying after school trying to learn the "Articles of Confederation" for almost a week because the teacher said we couldn't be good citizens unless we did. I really tried, because I want to be a good citizen. I did hate to stay after school, though, because a bunch of us boys from the south end of town have been cleaning up the old lot across from Taylor's Machine Shop to make a playground out of it for the little kids from the Methodist home. I made the jungle gym from old pipe and the boys made me Grand Mogul to keep the playground going. We raised enough money collecting scrap this month to build a wire fence clear around the lot.
>
> Dad says I can quit school when I'm fifteen and I'm sort of anxious to because there are a lot of things I want to learn how to do and as my uncle says, I'm not getting any younger.[3]

Twenty years have passed since this adolescent and thousands of his contemporaries and successors have awaited their opportunities to leave school. Some have been brighter and some duller, but most have contained within them much untapped talent. During the same twenty-year period, Guilford and his associates have noted that of the many dimensions of the human mind, teachers know something of five or six. Evidence has accumulated that areas of functioning which are not usually considered relevant to intelligence and for which teachers have almost no measures, e.g., flexibility, originality, and sensitivity to problems, constitute important keys to success in such demanding fields as science. Getzels and Jackson have suggested that when intelligence tests are used in selecting the talented, *about 70 percent of persons who score among the top one-fifth on tests of creativity are overlooked.* Torrance's findings tend to support those of Getzels and Jackson, while Calvin Taylor points to America's need for divergent thinkers with what he calls "tomorrow minds."[4]

The failure of the schools to evoke hidden talent presents a challenge to the very democracy which is presumed to do most to discover and develop human potential. A great need of our times which transcends the curriculum and instruction as these are ordinarily conceived is to find ways of drawing upon human potential through skillful teaching. To explore the need and to advance some methods of satisfying the need, the members of the committee have devoted their efforts in planning and preparing this volume. As the committee has deliberated about the content and the design of the volume, its members have become more than ever convinced (a) of the waste of manpower which ensues from ignoring, misguiding, and failing to evoke human potential; (b) of the multiple dimensions in which human potential appears; and (c) of the devotion of numerous American teachers who attempt, even if sometimes quixotically, to find and respond to varied potential in learners.

---

[3] *Ibid.*

[4] See references at the conclusion of this chapter for several of the pertinent works of these and other authors.

The committee decided, early in its sessions, to avoid trying to plumb the psychological depths of human potential. Instead, the committee determined to make the 1964 Yearbook a practical document which would serve as a guide to insightful teachers and their equally insightful supervisors. The Yearbook is, we hope, a contribution which speaks clearly of interaction among persons in classroom and school, of mutual response, of personal relevance and openness in learning, and of intelligent facilitation of experiencing. We have concerned ourselves less than some might wish with mass movements in education and large projects in instruction. Instead, we have chosen to discuss some of the intimate uses of subject matter and of process which help teachers find individual learners in groups, and which make these teachers agents for opening the world to learners and for freeing them to explore the world. Accordingly, we have given our attention to the functioning of teachers in classrooms and to the assistance which educational leaders can offer teachers in improving their functioning. In doing so, we have sought to emphasize the dignity and the worth of people.

The Impact of Social Influences

By group deliberation, the committee has adopted certain premises concerning the culture and society in which learner and teacher now operate. We believe that Americans live in an era of unclarity, complexity and flux. If national goals are unclear, so too are the goals and values of individuals. Cultural pluralism, despite its worth in enriching our society, has helped create to some extent, at least, confusion and uncertainty. Furthermore, change is all about us, and as a consequence, the presence of change often seems the most credible fact in man's experience.

With an impatience which many persons believe to be overdue, leaders in education, both within and outside the profession, are presently fostering gross movements for creating change. These movements bring with them a train of unevaluated experiments and demonstrations, and they seem to imply an assumption that what benefits the mass of learners will necessarily benefit the individual; that if, for example, one boosts the achievement of all able pupils two grade levels and if one seeks diligently to teach the less able to read, the problems of educating individuals, including those among the great, faceless middle ability group, will be largely solved.

Within recent years, suggestions have been made for preventing loss of potential by regrouping pupils, reducing class size and effecting major organizational changes in schools. We do not deprecate the possible significance of these efforts in effecting educational change, but we are convinced that what happens *within* newly organized groups, classes of reduced size and revamped organization is crucial to discovery and development of human potential. For this reason, we are interested especially in the dimensions of potential with which teachers may work in providing appropriate opportunities for pupils in their classrooms.

We recognize that the 1960s are witnessing a truly tremendous "explosion" of knowledge. We do not know whether or not the explosion equals in size and potency Robert Oppenheimer's reported estimate that knowledge doubles every eight-and-a-half to twelve years. We do know, however, that the effect on the schools of such an increase in knowledge must almost defy comprehension. In the field of science alone, a whole new era was exploded into being in the skies over Alamagordo, with the consequence that textbooks are becoming partially obsolete before they can be shipped by the publisher. In these circumstances, teachers assume heavy responsibility for sorting among ranges of knowledge in search of appropriate content, new and old, and for helping learners find meaning and relevance in subject matter drawn from the ever-widening world of man's experience. Too often, teachers find themselves burdened with a curriculum which was designed to face backward rather than forward. Yet the present is a time for a bold and serious forward look, if only because science and technology now compel man to develop inner resources for controlling an increasingly complex, dynamic and stimulating environment.

One of the considerations which necessitates a near-clairvoyance about learners' individual destinies is the appalling waste of potential one sees all about him. During their recent attempts to resurvey the problem of dropouts, educators have had to view the shipwreck of young lives in a context of critical national need. A population which is burgeoning in an era of rapid scientific and technological development and in times of ever-present threat to the national welfare can ill afford the waste of talent which results from pupils' dropping out of school psychologically even before they leave physically. In the words of the preamble to the National Defense Education Act, "the security of the nation requires the fullest development of the mental resources and technical skills of its young men and women." Lawrence Frank notes in the ASCD 1963 Yearbook that

. . . studies of human growth, development and aging reveal a wide array of stunted and disordered personalities as well as many forms of physical impairments and dysfunctions at all ages, but increasingly frequent and serious in later years of life. We may, as many are persuaded, interpret this melancholy record as evidence for a pessimistic conception of human nature and an assessment of human potentialities as essentially defective, prone to evil or neurosis, and inescapably condemned to repeat these patterns endlessly in every generation. Or we may regard the record as an indication of how we misuse and waste our human potentialities, partly because of our traditional beliefs about human nature and expectations and our long accepted practices of child rearing and education, but principally because until recently we have had no dependable knowledge of man or any adequate realization of his many potentialities for good or ill.[5]

A Presidential fact-finding committee on employment of youth has reported an "immediate and desperate" problem which confronts 600,000 to 800,000 school leavers who are between the ages of 16 and 21. While members of this throng constitute only 1/14 of the nation's labor force, they account for 1/6 of all unemployment.[6] Complicating the evil of insufficient and inadequate schooling in their situations are segregation, cultural disadvantages and other social ills.

Problems of Personal Alienation

One may add to multiple social influences the fact of personal alienation which educators are beginning to recognize in its broader aspects. Originally identified with disadvantaged cultural environments and with learners of low socioeconomic status, the concept of alienation now encompasses many psycho-social effects on human behavior. Personal alienation from one's world may indeed stem from cultural poverty, but it apparently originates also in an inadequate self-concept, in the cultural malaise to which the economically privileged are exposed, in disintegrating patterns of family and community life, and in the failure of teachers to interact empathetically and helpfully with their pupils. As seen in the schools, alienation constitutes a psychological curtain which the learner is somehow induced to draw before him, thereby shutting out desirable experience and contact with his environment. For instance, can it be that the current drive toward excellence has created such competition among able learners that, for many of them, a curtain has lowered between them and their peers and teachers? If so, much needs to be done to free learners to reduce competition, restore communication, increase interaction, and make mistakes in the only reprisal-free environment which society can easily provide.

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[5] Association for Supervision and Curriculum Development. *New Insights and the Curriculum.* Washington, D.C.: the Association, 1963. p. 27-28.

[6] President's Committee on Youth Employment. *The Challenge of Jobless Youth.* Washington, D.C.: United States Government Printing Office, April 1963.

To decrease the tendency toward alienation and to encourage discovery of potential, certain agreed-upon findings about learning need, we believe, to be pressed into use. We fear that learning is being discussed today too much in terms of rate, though we know that learning is multidimensional, exceedingly personal, and virtually limitless. The insightful teacher encourages the presence and use of multiple ways of learning because he views the realm of human intelligence as being markedly extensive and complicated. He knows that the testing of intelligence and achievement supplies him with only part of the data he needs, and that wide ranges of his pupils' potential are yet to be explored. Each day he listens to pupils' "ridiculous" questions and aberrant answers because he believes that evidence of potential appears in obscure places and at unexpected times. Like the best teachers of all the ages, he assumes an optimistic attitude toward both the talents and the limitations of the learners in his charge.

We affirm the notion that education should be expected to increase rather than narrow the range of differences among learners. When teachers accept this notion, they try to devise ways of finding differences and responding to these variations. Also, they see human potential as "total personal responsiveness without preconceptions concerning the limitations of that responsiveness,"[7] and they consider one of their major teaching tasks to be extending personal relevance in a pluralistic world.

Finally, we advocate intensive inquiry into the nature of potential and into feasible ways of evoking potential. Large expenditures of funds and human energy may be necessary to conduct this inquiry, but we believe such efforts to be essential. Surely creation and communication of ideas about potential demand as much support as many of the less fundamental causes for which public and private donors are likely to expend money.

The Design of the Volume

The 1964 Yearbook has been planned with several major emphases in mind:

The individual and his potential viewed in cultural perspective. Chapter One details some basic understandings concerning the theme of the volume.

The learner. Chapter Two states a conception of the human being whose potential is to be released.

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[7] This is a definition suggested in Chapter 1 on page 13.

The uses of subject matter. Chapter Three discusses ways in which curriculum content may be utilized in releasing potential.

Classroom method. Chapter Four suggests guidelines which teachers may use in interacting with individual learners to help release their potential.

Environment of classroom and school. Chapter Five reviews matters of environment and advances ideas for using human and material resources in releasing potential in learners.

Functions of administrators and supervisors. Chapter Six presents a discussion among five administrators concerning ways of helping teachers release potential in learners, and concerning ways of releasing potential in the teachers themselves.

The Conclusion offers a summary of key ideas contained in preceding chapters.

The Appendix contains three examples of inquiry concerning ways of individualizing teaching by attempting to release potential in learners. The examples were chosen for their faithfulness in representing the actions of classroom teachers in seeking ways to achieve individualization.

This volume has been developed cooperatively through discussions in which members of the committee have engaged during national conferences of the Association for Supervision and Curriculum Development, and on several intervening occasions. Therefore the pronoun "we" which is used in these pages has more than an editorial import. Members of the committee have given their general assent to major ideas stated in each chapter of the Yearbook.

We of the committee recognize that discovery and development of human potential represent only one facet of education. We believe, however, that achieving individualization which effects release of human potential has long been an important function of classroom teachers. We wish now to call attention to the need for deeper understanding of the meaning of potential, and of ways by which the individual's potential may be released through teaching.

We realize how little is known about the theme we have attempted to explicate. Accordingly, we choose to regard the Yearbook as being open-ended, leading to further inquiry into matters which lie at the center of efforts to improve teaching.

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1/ Individualization and Human Potential

Robert F. DeHaan and Ronald C. Doll

IN THE film, *Passion for Life,* the French schoolmaster expresses a wish to "get behind the faces" of his pupils, to know more about each child as an individual. The schoolmaster's wish has been shared by teachers throughout the centuries. Yet each insightful teacher knows that he views the individual learner as "through a glass, darkly," not really face-to-face.

Accordingly, the teacher often has settled for a superficial view of the individual and of individualization. He has said, "Surely learning is an individual matter. Each child brings to my classroom personal characteristics and ways of perceiving and responding which are peculiar to him. When I teach my whole group, its members are probably being affected in different ways. The nature of the group itself may make a difference. If so, perhaps our principal can group my pupils before I receive them, so that reaching the individual will be easier in a group in which the children are more nearly alike. We should test all the children so that we may group them uniformly."

Comments like these have been heard in American schools for many years. They serve as reminders of the zeal and intense effort which have characterized the search for ways of individualizing teaching.

Attempts at Individualization

Attempts to achieve individualization of teaching have generally rested on an assumption that there exists at any given educational level a fixed body of subject matter which is most worth learning. Some pupils learn the prescribed content rapidly; others learn it more slowly. Teachers' major preoccupation has been with rate of learning: how much, how fast?

In 1916, the psychologist Terman suggested a need for differentiated courses of study, to permit each pupil "to progress at the rate which is normal for him, whether that rate be rapid or slow." He proposed to teachers that they "measure out the work for each child in proportion to his mental ability."[1] As might have been expected, attention soon became focused upon the extremes of "giftedness" and of slow learning, a consequence which remains much in evidence today. In its 1925 yearbook, the Department of Superintendence of the National Education Association recommended that the "general core of subject matter which should prevail throughout the nation for the first six grades" be modified in content and time allocation to provide for individual and community differences.[2] Meanwhile, Franklin Bobbitt, a curriculum authority of the 1920s, had advocated determining the curriculum for the brightest pupils first, then modifying it for the average group, and simplifying it for the slowest.[3]

The National Survey of Secondary Education, which was conducted in 1932, revealed that in more than 11,000 high schools individual differences were being cared for chiefly by homogeneous grouping, special classes, and "unit assignments" occurring under the Morrison, Dalton, and Winnetka plans, as well as through problem- and project-method teaching.[4] A few years later, Harap reported that ability grouping was the commonest method of attempting individualization of teaching. In addition, he noted, schools were adjusting their courses of study to the needs of slow and rapid learners, were preparing special courses of study for retarded children, were developing remedial programs, and were using auto-instructional materials in the form of workbooks and individual assignment sheets.[5] However, the activity program of the same era tended to discourage ability grouping by promoting the idea that each pupil should be permitted to contribute to his heterogeneous group according to his ability and interests.

Since the 1930s, rate of learning has continued to be a central interest of persons advocating various plans for individualizing instruction. Many of the plans have emphasized so-called homogeneous grouping, though this form of grouping has not been found consistently effective.[6] Fifty-two percent of the principals of large elementary school districts have reported an increase in grouping according to ability and/or achievement levels, and 46 percent of elementary school principals in districts of all sizes have noticed this increase during the period 1956 to 1961. Nearly two-thirds of high school principals have stated that grouping has increased in their schools during the same period.[7]

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[1] Lewis M. Terman. *The Measurement of Intelligence.* Boston: Houghton Mifflin Company, 1916. p. 4.

[2] Department of Superintendence, Commission on the Curriculum. *Research in Constructing the Elementary School Curriculum.* Third Yearbook. Washington, D.C.: the Department, National Education Association, 1925. p. 25.

[3] Franklin Bobbitt. *How to Make a Curriculum.* Boston: Houghton Mifflin Company, 1924. p. 41-62.

[4] Roy O. Billett. *Provisions for Individual Differences, Marking and Promotion.* Bulletin 1932, Number 17, National Survey of Education, Monograph 13. Washington, D.C.: United States Government Printing Office, 1933. p. 415.

[5] Henry Harap. "Differentiation of Curriculum Practices and Instruction in Elementary Schools." *The Grouping of Pupils.* National Society for the Study of Education. Thirty-fifth Yearbook, Part 1. Chicago: the Society, 1936. p. 161-72.

Several proposals that are old and a few that are new are finding their way into elementary and secondary schools with some thought of increasing and improving individualization. These include departmentalization, elimination of grade levels in elementary schools, team teaching, and employment of paraprofessionals and teacher aides; programed learning and language laboratories; and acceleration and enrichment. State-wide testing and national examinations appear to be assuming greater importance. In New York City, a committee of high school administrators has suggested that the four-year secondary school program be shortened to two years, with pupils attending school eight hours a day.[8]

Most of the proposals carry the implication that standard content should be learned more speedily. Educators have learned, however, that rate of learning prescribed content is only one consideration in individualization. Learning is personal, unique, unstandardized. Furthermore, learning has numerous dimensions, and it is without limit. Obviously, then, new and different proposals are needed if teachers are to use these facts in individualizing teaching.

An Era of Cultural Disunity?

The events which have been recounted in the initial pages of this chapter have occurred within fifty short years. If one views centuries rather than a single half-century of history, he may agree with Rollo May that societies pass through periods of relative integration and unity in which their goals are being defined, cultural symbols are being clarified, and productivity in many forms is expanding. Such an era is sometimes called a golden age. On the other hand, societies also pass through periods of disunity and disorganization in which symbols lose their unifying power, goals lose their meaning, and productive potential declines.[9]

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[6] Ruth B. Eckstrom. *Experimental Studies of Homogeneous Grouping: A Review of the Literature.* Princeton, N. J.: Educational Testing Service, 1959.

[7] The Project on the Instructional Program of the Public Schools, National Education Association. *The Principals Look at the Schools.* Washington, D.C.: the Association, 1962. p. 15.

[8] *New York Times,* October 3, 1963.

Periods of integration and disunity are never clearly defined. Some unifying forces can be found in periods of decay and *vice versa*. Thus, while one aspect of culture may be unified, another aspect may be deteriorating. Relatively clear examples of periods of expansiveness and unification, however, are the Golden Age of the Greek period in the Fifth Century B.C., the early Christian period, and the modern period beginning about 1650 and continuing into the Nineteenth Century. Periods of relative disunity and disorganization are exemplified by the later centuries of Greek culture, the end of the Medieval period, and the contemporary era beginning with the last part of the Nineteenth Century.

May observes that periods of cultural unification are generally accompanied by growth and integration of the persons within the culture. Personal integration and growth seem to be attained spontaneously through art, religion, education, and political life. Symbols and myths unite persons; the forward sweep of life seems to catch up the individual and move him forward toward meaningful goals. On the other hand, periods of flux and disorganization appear to be accompanied by increased anxiety, personal meaninglessness, feelings of isolation, and lack of fulfillment of human potential.[10]

Much of the popular literature of the middle Twentieth Century supports the view that Americans now live in an era of cultural disunity and disintegration. According to some observers of the cultural scene, Americans are speedily submerging the individual in conformity to the norms of his group. Other observers criticize the uncertainty of moral and ethical values to which children and youth can unequivocally subscribe. Certainly, change and flux are apparent in our society even as our population grows and the number of our subcultures increases. Although the challenge of communism provides some external pressure toward unification, this force is probably insufficient to solve the long-term problem of disunity because its thrust does not come from within either the individual or the culture.

Whatever America's present and future with reference to cultural unity or disunity, teachers are now noticing the impact of new and altered social forces on children and youth, and on decisions which must be made about children and youth in schools. Teachers find that learners are often alienated from the school environment, and are harrassed and pressured outside school. Teachers may properly wonder whether alienation today is different from or stronger than the alienation which learners have felt in the past. They may wonder also whether more school people are becoming sensitive to the needs and concerns of individual learners, and are therefore more capable of recognizing alienation for what it is.

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[9] Rollo May. "Historical and Philosophical Presuppositions for Understanding Therapy." *Psychotherapy: Theory and Research*. O. Hobart Mowrer, editor. New York: Ronald Press, 1953. p. 10.

[10] *Ibid.*, p. 16.

During golden ages, problems of personal meaning have perhaps not been solved as completely as they sometimes appear to have been. In every age and in every person, there probably have been thinly concealed anxieties ever ready to emerge. Educators today should be unusually watchful for the possible effects of cultural disunity in causing the individual to be undervalued and to be inadequately attended to.

Individualization of teaching is, under the best of conditions, a difficult, easily misunderstood function. Individualization of teaching goes beyond the content of the curriculum and beyond standardized instruction. Certainly it goes beyond routine academic achievement, for individualization gives *personal relevance* to experiences which the individual learner shares with the other members of his group.

Unquestionably, increased individual responsibility and commitment are needed in our society. In order that learners may become increasingly responsible and committed, their potential as individuals must be discovered, developed and released. The times demand this, but not in the sense that the economy needs more engineers, and that therefore educators should emphasize science and mathematics to the neglect of other subjects. The times demand that the individual's potential be discovered, developed and released because of the multiple benefits which the realization of his full potential can eventually offer the individual person and the society in which he lives.

Aim of Individualization: Release of Human Potential

We of the yearbook committee consider the chief object of individualization to be release of potential in the individual learner, *i.e.*, with reference to the preceding paragraph, potential which is useful both to the learner and to the society in which he lives. By *human potential* we mean those nascent powers of unpredictable proportions which are within the person: powers which can be diminished or expanded through educative (and other) processes. Human potential is everything with which the individual is capable of responding. It is seen in the individual's dynamic interplay with his environment. It is, in brief, total personal responsiveness without preconceptions concerning the limitations of that responsiveness. The most helpful orientation that an educator can hold toward discovering, developing, and releasing human potential is openmindedness concerning each learner's potential, together with a sense of obligation to help each learner realize his potential, which is in conformity with his own best interests and with social ideals.

Lessons of recent years should have taught school personnel that they cannot afford to judge potential merely by intelligence quotients and records of scholastic achievement. For example, during the period 1955-1957, Strauss studied the careers of 89 men who had earned Ph.D.s in physics, chemistry and engineering at the University of California, Cornell University and the Ohio State University. Their high school guidance records showed that three percent of these men had intelligence quotients ranging from 96 through 100; six percent, quotients from 101 through 110; 29 percent, quotients from 111 through 120; 36 percent, quotients from 121 through 130; 17 percent, quotients from 131 through 140; and nine percent, quotients from 141 through 165. In high school, 36 percent of this group of future high achievers in science and technology had ranked below the top tenth of their senior classes. Strauss concluded that the significant characteristics of the group were drive to succeed, non-conformity, and response to the helpful interest and concern of teachers or laymen.[11] Even more dramatic examples of the unreliability of intelligence quotients and scholastic records in predicting life success have been discovered by analyzing the careers of men and women in other fields.

Educators, like other persons in our culture, tend to oversimplify man. Eric Hoffer states a danger in this oversimplification: "It is an awesome thing," he says, "that the most breathtaking example of daring we have witnessed in the second quarter of the Twentieth Century was the daring to think low enough of human beings. Both Hitler and Stalin displayed this daring in an unprecedented degree, catching the world unawares and almost overwhelming it." [12]

Totalitarian powers in the past have tried to remove from man his essential humanity and thereby make him a predictable robot to serve the purposes of the state. The genius of the Hebrew-Greek concept of man is its insistence on the *person with unlimited potential,* its effort to cherish highly his unpredictability and to find in the weakest and smallest of men the potential for a new movement toward meaning in society. It is toward the discovery and release of hidden powers that educators need unceasingly to bend their efforts.

Teachers need to emphasize *discovery* of potential in learners. They can do this, in part, by providing opportunities for learners to discover their own powers as they participate in the numerous mental, emotional, aesthetic and social interactions involved in the learning process. The teacher's concern should be not only with the content of learning or with the end product of the learning process, but also with the continuing process of self-discovery which should accompany learning and give the content and the learning process *personal relevance*. Education should be accompanied by wonder and surprise brought about not only by discoveries in the objective world but also by discoveries in the subjective world in which the learner finds personal worth. In a real sense, the goals of education are only partly reached when the pupil achieves well academically. The goals are most fully attained as he continues to discover himself in the process of "getting an education."

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[11] Samuel Strauss. "Looking Backward on Future Scientists." *The Science Teacher* 24: 385; 1957.

[12] Eric Hoffer. "How Natural Is Human Nature?" *Saturday Evening Post,* January 13, 1962. p. 36.

A second meaning of discovery of human potential is that of being discovered by others. Teachers should be interested not only in the pupil's discovery of himself and of the exciting forces of growth that reside within him; teachers should be interested also in making, for themselves, discoveries of the talents and abilities of learners. We believe that teachers should be surprised and delighted at the potential they see in children and youth, and we expect teachers to communicate their surprise and delight to their pupils. In this way teachers can participate in the discovery of human potential.

Another meaning of discovery relates to the process by which the pupil, having discovered within himself something of himself, can in turn discover in other human beings their value and worth.

The teacher has a role, too, in the *development* of potential in learners. He accomplishes this by emphasizing the developmental needs of learners and by regulating teaching according to these developmental needs.

Development of potential causes its *release* for useful service to the individual and to society. We see release of human potential as being the major goal of teaching for individualization. Release suggests a reduction of restrictive forces which hold the individual back, but it suggests also an affirmative, dynamic freeing of the individual for action.

To *realize* his potential, the individual needs to grow and develop through time and experience which are of greater duration and significance than the school can supply. Therefore, we choose to say that while the school helps with the realization of human potential, it is likely to make only a part of the total contribution to ultimate realization or fulfillment.

Some Expressions of Human Potential

Both historically and currently, one can find ways in which human potential expresses itself:

1. In Western civilization, some of the best of human thinking and

creativity has been generated by the liberal arts and the humanities. In the study of philosophy, literature, and art, one can find many of the highest aspirations of man. When these subjects are taught in such a way that they become relevant to the learner's life in his own times, they can have the effect not only of releasing in him expressions of his unique self but also of permitting him to contribute to the great tradition of the liberal arts in Western society.

2. Science and technology have provided avenues down which many persons have advanced in improving the welfare of mankind while they were living out their unique selves.

3. In the area of corporate and political living there are formed dazzling displays of what the human psyche can produce both for the total benefit of man and also, unfortunately, for his detriment. In studies of such an area of social sciences a student can reveal a part of himself which might remain closed in other areas of study.

4. Perhaps one of the greatest stimulators of the untold reaches of man's mind occurs when he enters into the spirit of a culture which differs radically from his own. For example, to live in imagination the life of a South Sea islander who navigates his canoe by the delicate sound of the waves slapping its prow, or of the Eskimo who releases the art form in the object that he holds in his hand is to find in one's self untold capacities for imagination and appreciation.

To emphasize the creative freedom inherent in the human being is not to deemphasize his capacity to be committed to ideals, to be engaged in exacting mental and physical pursuits, to be loyal and self-sacrificing, or to live by principles and convictions. We are concerned with freedom within a social context. We are convinced that human potential is released in part by participation in and interaction with groups and all the commitment that such participation and interaction require. Although living in a group exacts a toll of freedom and energy from each member, such participation repays what it takes, with interest, in security and belongingness, which in turn can serve as a basis for releasing motivation and creative insights.

How May Human Potential Be Released?

These examples are meant to indicate that human potential is a multidimensional, many-faceted, personal possession of the human spirit with which educators are concerned. It is the responsibility of school people to manage the educational content and the learning situation in such way that for each pupil these inchoate forces within him become awakened and released.

No one can say specifically and assuredly what releases human potential in a given instance or situation. The factors which effect release are apparently numerous, and they are also complex in their interrelationships and in the timing with which they should be introduced. What strikes a responsive chord in one pupil may leave another completely untouched. Moreover it is possible that a given stimulus may fail to stir a pupil at one time whereas earlier, or perhaps later, this same stimulus might have been effective. The human being is always growing, changing, adding new experiences, forgetting old ones, and refusing to be simplified so as to conform to a neat educational theory.

Furthermore, human development has in it elements of unpredictability. Though there is a core of human behavior and learning that is amenable to scientific study, this predictable core of behavior is the least important factor in making a person a human being. Reflexes, instrumental conditioning, and learned responses which man shares with the whole animal world are not what give man his uniqueness and dignity. Man's potential for creativity, on the contrary, is a necessary ingredient of his humanness. This creativeness is essentially unpredictable. Therefore, one should look with suspicion at dogmatic statements about what techniques or procedures will or will not work to release man's essential humanness.

Consider two contrasting examples of the unfolding of human potential under rather different conditions:

One day during the reading hour, a second grade teacher noticed an inattentive girl who was engrossed with something that she was holding beneath the table. During the course of the day, the teacher found an opportunity to ask the girl what she had been playing with during the reading period. Although the girl looked startled at first, she responded to the smile of interest that she saw in her teacher's face. From her pocket she drew a little figure made from a wooden dixie-cup spoon. A face had been crayoned on the spoon, and the doll was dressed in a long skirt.

"This is Sally," said the little girl. "Tell me about Sally," asked the teacher. The girl then revealed that Sally was one of many characters she had created. She went on to describe the play she was making up for her characters. Perceiving how involved the girl was in her dramatic production, the teacher encouraged her to work on it openly in her free time. She set aside a corner of the classroom for the child's dramatic play, knowing that other children would catch the fever of creativity from her. This is precisely what happened. Soon a large part of the class was involved in creating characters and dramatic situations in which they could perform. Such an experience may reveal to children an aspect of themselves of which formerly they may have been quite unaware, and which will forever remain in their memory as a small pointer to what they might eventually become.

The second example is of an exacting, demanding teacher of science who emphasized to his pupils the importance of knowledge, accuracy, information and persistence. Some of his colleagues and many of his pupils thought he was "too tough." What he communicated to learners, however, was a spirit of enthusiasm, boundless inquisitiveness, and awe for the world that is revealed by scientific methods. The force of his ideas made a tremendous impact on his pupils. At times, the teacher seemed almost oblivious to the individual learners before him; yet he left each one with an expansiveness and motivation that surprised even the pupils themselves. Learners enjoyed the satisfaction that comes from excellence and craftsmanship. Through all his apparent disregard for individuals in the classroom, the teacher continually threw out leads, suggestions and intriguing possibilities for learners to take up and pursue on their own. He showed boundless patience for and interest in pupils, who came to him in a steady stream for consultant help with their individual projects.

It should be noted that individualizing teaching is a matter of degree rather than an all-or-none endeavor. Undoubtedly all teachers individualize their teaching to some extent, and for some pupils more than others. A major purpose of this yearbook is to encourage teachers to become creatively involved in making education more relevant to more pupils on more occasions than they have done in the past.

To this end, the following suggestions for individualizing teaching to release potential may prove of interest and worth:

1. In individualizing teaching, the emphasis is on the pupil as a person, the teacher as a person, and the interaction that takes place between them. In such an interpersonal relationship, the pupil can face the world and accept himself in a way which facilitates release of potential.

For example, a college student recently approached his biology professor with a question as to whether he should continue his premedical program. As they talked, the student stated, almost with surprise about himself, that in the past he had been planning to study medicine primarily to prove to himself that he possessed enough brainpower to finish medical school. He had never talked with anyone about why he wanted to be a physician or what he saw in the medical profession. Recently, however, he had discovered that he was becoming terribly afraid he might fail. His anxiety was mounting to a point at which he was becoming physically ill and actually beginning to fail in his college work.

In his interaction with the instructor, the student began honestly to face the requirements of the world and his inadequacies as a person, so that he was able to release the energy that was tied up in his anxiety about himself as a person. Because the instructor had previously responded to the student as a whole person, the student perceived him as one with whom he could talk about things so important to himself and yet so threatening that he had never revealed them to anyone else.

What was the spark that the instructor provided to touch off the student's explosion of self discovery? Was it the teacher's enthusiasm for biology which reflected the student's own lack of enthusiasm to the student himself? Was it the look of self-doubt which occasionally appeared in the eye of the student to which the instructor was sensitive and responsive? Was it just the fact that the instructor was at hand when he sensed that the student would like to have an opportunity to unload his burden? We cannot say for certain, but we can say that the teacher was interested in the student as a person with feelings, doubts, questions and aspirations, and not just as a name on his seating chart in the course "Biology 15."

2. Individualization occurs when a teacher recognizes and responds to the emotional reactions of the learner as well as to his academic achievements, his intellectual mistakes, or his mental deficiencies, *i.e.*, when the teacher responds to the pupil as a whole person and not just as a learner of specific subject matter.

One can push this idea even further. It is important for teachers not only to respond to emotional reactions when they occur but also to seek to establish conditions for emotional as well as intellectual responses in the learning situation. Teachers need to behave enthusiastically, so that they may provide the call to pupils to respond, to act, not just passively to receive.

In passing, it should be mentioned that pupils may be attracted to a given teacher because of a variety of motives, not the least of which is sexual. There is a feathery line of distinction between a teacher's being evocative and being provocative. Teachers need to recognize that many motives drive their pupils, and they themselves need to respond to pupils' motives that are most closely allied to the learning situation.

3. Individualization occurs when the teacher goes beyond ordinary achievement. One teacher, for example, may teach the three Rs with precision and persistence; as a consequence, his pupils achieve well. His educational goal is reached. Another teacher makes achievement in the three Rs a means to the end of motivating the pupil to further learning, of exciting the pupil about some aspect of his world to be further explored, of releasing in a learner confidence in his own competency, of triggering in another learner a burst of creative endeavor. The second teacher has come closer to individualizing teaching than has the first.

4. Individualization also occurs when the teacher considers the pupil to be an individual with unique perceptions, values, concepts and needs, and when he creatively fashions learning opportunities to enhance the pupil's

individuality. Teaching is designed to make learners less like each other rather than more like each other. It is the teacher's responsibility to bring to learners his perception of what they can become, to bring this perception in such a way that he releases the catch-spring of their desire to achieve the best that lies within them.

5. Individualization is meant to lead to commitment and purpose, to sensitivity to others' needs, to awareness of the demands of truth and justice. For example, students on a field trip to the state capital may fail to internalize the lesson such a trip offers if the teacher does not help them analyze and accept fully their responsibility to become personally involved in representative government.

Neither this nor any other book can do full justice to the innumerable ways in which the latent forces in learners can be released. Each teacher, being a unique person, has in his own personality and in his own teaching situation unique instrumentalities for stimulating pupils with whom he has contact every day. Two teachers, both of whom are immersed in the classics, may use these resources in different ways in reaching the variety of pupils whom they teach. A teacher in the metal shop may literally use the machinery of the shop as a lure to call from his pupils those latent impulses toward humanness and possible greatness which reside within them.

Achieving Individualization Through Curriculum Content

Individualization of teaching does not replace or supersede the content of education. Rather, individualization brightens and enhances content. If the role of curriculum content may be compared roughly with the part the booster rocket plays in the flight of an astronaut, then individualization may be analogous to the last-stage rocket which puts the capsule in orbit. However, in education the booster rocket and the last-stage rocket fire simultaneously.

We believe that individualization of teaching is increased when education relies as much as possible upon reality and upon actual experience for its content. Observations, firsthand experiences, and direct contacts with the world are the raw material of education. In general, the more direct the transactions the pupil can have with such raw material and the more often such transactions occur, the better.

Two qualifications need to be added immediately, however. First, to say that observations and unmediated experiences are raw material of education does not imply that all education has to be built upon direct experience. Certainly, pupils can learn vicariously. Nevertheless, their vicarious experiences will be more meaningful and relevant if they have had firsthand experience at some time during the educational process so that they have at least the flavor of what it is like to deal with the phenomena of nature with their own senses. For instance, a pupil who has seen a bird build a nest or who has watched hydrogen bubble up from the materials in his test tube in the laboratory has a better foundation for understanding abstract concepts of nest building and of chemical reactions than a pupil who has not had such experiences.

Second, education is just beginning when direct contacts with nature and human activity have been made. Education is the process by which the raw material of these experiences is fashioned into the more or less finished products of generalizations, theories, poetry, and artistic production. Acquisition of skills, as in reading and arithmetic, by which the pupil can transform his raw experiences into some formulated product is one of the main tasks of education. In the process of teaching these skills, a teacher must indeed be blind if he cannot find at least a few opportunities to point out the personal relevance of the ongoing activities to the lives of his pupils.

Reality and the mechanisms for its perception are not formless and incoherent. There is pattern in each, and the pattern can be discovered and formulated. In discovering and formulating patterns in the raw material of nature, pupils may learn what past generations of thinking men have said concerning their insights into the patterns of nature and of human life. However, past formulations are not necessarily complete or sufficient. They need not be worshipped. They can be studied and understood, and insights into the historical and social reasons leading to the formulations can be learned. Teachers should not always be content with them, however, particularly if learners have not participated in their own personal process of formulating and creatively expressing the patterns which they perceive in the raw material of their experiences.

The possibility and desirability of reformulating old concepts and combining these with new concepts should be held up to the learner as being within his grasp just as they were within the grasp of geniuses who lived long ago. The learner need not be wedded to the past, but he may legitimately consider past formulations incomplete and amenable to further elaboration and refinement. Thus the learner can in principle join great thinkers of the past in their efforts to clarify reality and thereby become more deeply rooted in the human enterprise. For example, a pupil may observe that a steel nail held in the yellow flame of a white candle will produce black smoke. He has probably perceived comparable phenomena many times. Other men before him have observed the phenomenon and, like him, have been led to explain how it happens.

Whether experience of this kind becomes personally relevant for the pupil, however, depends largely on the way the teacher handles the situation. Is he himself moved by his perception? Does he wonder about the relationships among the nail, the flame, and the candle? If the teacher himself is insensitive to the world around him, or if he lays out dogmatic descriptions and explanations of phenomena, the pupil is likely to assume a passive role toward his experiences, a role in which little internal unfolding of imagination and insight takes place. Much of life may go past the pupil under these conditions without his responding to it. Countless opportunities may be lost for him to join in his own way the efforts of mankind to comprehend the universe.

If, however, the teacher structures questions that lead the pupil to inquire into what he has observed, to respect his own hunches, to formulate hypotheses and to test them, the teacher can help the pupil make his own statements of cause and effect relationships. The resultant discovery, whether formulated by the pupil in systematic scientific terms, or in a poem, or in a painting, becomes his personal possession. As the pupil delves into the past to study how other scientists and artists formulated their problems and their solutions, he joins them by vicariously sharing their contributions.

Barriers to the Release of Human Potential

There exist several massive social barriers which reduce pupils' potential to learn and to become as completely human as possible. Such barriers are racial segregation and restriction of freedom, cultural deprivation as found in populations in the inner city, social malaise, disorganization and apathy, and general dissolution of much that people hold dear. We believe these barriers create problems which belong to society as a whole. The problems impinge upon educational effort, and the educational system must either work in concert with other social institutions or work indirectly through these institutions.

There are, in addition, psychological barriers which inhibit the teacher in releasing pupil potential. To these internal, psychological barriers we now turn our attention.

1. Teachers may feel uncomfortable and even frightened about conceiving of their professional task in such esoteric terms as "discovering, developing and releasing human potential." Teachers may ask what their daily teaching duties have to do with discovery, development and release of hidden forces within the minds of pupils. For example, a kindergarten teacher may want to know what "show-and-tell" time in the kindergarten has to do with children's discovering their inner powers. When Johnny paints a picture, can one really say his potential is emerging? When a class visits city hall on a field trip, is the potential of its members being unfolded?

Or are we simply rationalizing in abstract, flowery terms what is really a routine activity called teaching?

To the teacher who faces a classroom filled with what to him may appear to be recalcitrant and obdurate human beings, the language and idea of releasing human potential may seem to be exceedingly idealistic. Indeed as we have implied earlier in the chapter, educational activities in and of themselves do not necessarily release potential within pupils. They only provide the situational context in which individualization can take place.

We do not seek to have teachers idealize the teaching-learning process in romantic or sentimental terms. In fact, we prefer that they be tough minded and reality-centered rather than sentimental about the learning process, the content of education, and the individualization of instruction. We do, however, desire that they be able to perceive and try to understand the chain of psychological events between little Jane's telling and showing to her classmates in the kindergarten and her discovering something about herself and her powers that would not have appeared but for that activity. For example, Jane may show her classmates the doll set that she received for Christmas. What happens? Only the alert and sensitive teacher can tell what this experience means to Jane. Does Jane come out of her world of fear and fantasy more often after this experience? If so, the teacher might be encouraged to give Jane similar opportunities later. Does Jane lord it over her classmates during show-and-tell time? The teacher might then wonder why she is driven to do so. Perhaps Jane needs to be encouraged to respond more favorably when other children take their turns. Or perhaps she needs to have the unreserved praise of the teacher, to satisfy what may be her unformed feelings of emptiness and longing for acceptance by others. Only further exploratory moves by the teacher can determine what the experience means to Jane and how she can profit from it. By pursuing questions such as those raised here, a teacher helps to individualize for Jane her part in show-and-tell time.

2. Teachers may also feel that emphasis on releasing intellectual and emotional powers within pupils forces teachers to become psychotherapists rather than pedagogues. If discovery of human potential is so important, is the role of the teacher as instructor obsolete? Are we advocating that teachers become psychological counselors?

As every teacher who looks at his teaching knows, there is much about teaching that is similar to psychotherapy. More psychotherapeutic principles can be applied to teaching than one at first realizes.[13] Counselors and psychotherapists emphasize the necessity of dealing, in any interactive process, with the feelings of people. Teachers, too, understand that feelings of pupils affect their learning, and counselors point out the importance of communicating to the counselor one's understanding of the counselee's internal world. Furthermore, psychotherapists underscore the necessity of communicating genuine affection and respect to the person. So do teachers. When this communication occurs, therapy in the broadest sense of the term is going on.

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[13] Association for Supervision and Curriculum Development. *Perceiving, Behaving, Becoming: A New Focus for Education.* 1962 Yearbook. Washington, D.C.: the Association, 1962.

Being responsive and sensitive to the feelings of others and communicating basic understanding and affection do not interfere with the teacher's responsibility to transmit the cultural heritage or his responsibility to see that pupils know bodies of facts or that they develop intellectual and conceptual skills. Striving for openness and creativity while trusting the pupil is both therapeutic and basic to good teaching, and it is by no means contradictory to the many different roles that the teacher must play. Furthermore, developing a feeling of identification is both possible and desirable for the teacher. For example, when a teacher has made a reasonable assignment, it is possible for him to say to his pupils: "I know that learning this set of facts is going to be difficult for you. I appreciate the frustrations involved in learning it. Nevertheless, my experience with other pupils has told me that you will need to know this soon, and if you do not, you will be handicapped. With this in mind, I have made the assignment and will hold you to it."

There is much about teaching, however, that is not therapeutic in the sense intended here. In saying this, we recognize that the teacher plays many roles besides those of counselor and instructor.[14] He is also an administrator who must make decisions *about* people as well as *with* them. He must deal with the pupil's performance and achievement as well as with his person. Ordinarily a therapist does not need to engage in evaluative, judgmental activities. A teacher, however, cannot escape such activities.

Furthermore, the teaching role not only fails to correspond completely with the therapeutic role but also goes beyond it. There are aspects of the pupil's life and achievement that are of no concern to a teacher in his role as therapist. For example, development of skills and attainment of new knowledge are largely irrelevant to the therapist but are an integral part of the teaching function and should not be downgraded in importance in the eyes of the teacher.

The "nontherapeutic" aspects of the teaching role are not to be ignored or rejected in favor of the therapeutic. Rather, they are to be set in the context of a therapeutic attitude toward pupils, just as the therapeutic role of the teacher must be set in the context of the instructional and administrative roles of the teacher. For example, a teacher can evaluate the academic progress of a pupil therapeutically by including in the evaluation information for the pupil about how he can improve his performance, and by bearing in mind that the mark he gives the pupil will have repercussions in the pupil's feelings and his self-evaluations. The teacher needs also to consider that these feelings must be taken into account in further dealings with the pupil. Perhaps the pupil is dejected over a low grade or a poor score on a test. Is this of no concern to the teacher? Should not the evaluation also show the pupil how to improve? Or if the pupil is elated about being placed on the honor roll, is not this response also a part of the whole educative process?

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[14] William C. Trow, Alvin F. Zander, William C. Morse and David H. Jenkins. "Psychology of Group Behavior: The Class as a Group." *Journal of Educational Psychology* 41:322-38; 1950.

3. One of the subtlest problems facing a teacher who attempts to individualize his educational efforts is the matter of what concept of society should govern his efforts. Our society has been described in many different terms: affluent, bureaucratic, enclosed, postmodern, technological, tyrannical, depersonalized. A teacher does well to examine his own concept of society to see to what extent it enters into his relationships with pupils in the educative process. Do the efforts of the teacher lead pupils toward successful living in the future in a particular kind of society? For instance, in a technological or an affluent society? Has the teacher pointed his teaching toward a golden age that no longer exists? Such considerations color the relationships a teacher establishes with his pupils. For example, a teacher who is excessively idealistic may rapidly lose contact with those adolescents who are in a rebellious frame of mind, and who are discontented with a romantic view of society.

Teachers sometimes have had held up for them the ideal of a simple idyllic world in which man is pictured as being "exquisitely rational" and in which the only barrier to self-actualization is psychological defensiveness.[15] To what extent does this portrait of society lose touch with reality? Does such a goal in education prepare pupils to exist under less than utopian situations? Does such a goal alienate from school those pupils who experience the world as a disjointed place? Does it create in pupils an idealism which is likely to result in the reverse reaction when reality of life outside school is faced?

The position of the committee responsible for this Yearbook is that education should prepare students to live in a pluralistic world. This is a world which cannot be characterized by anything short of paradoxes and contradictions and difficulties. Such a portrayal of the world does not rule out idealism. It does not mean, however, that a student needs to accept such a contradictory world without attempting to do something to change it. Neither does it rule out the realism of facing today's and tomorrow's difficult social conditions.

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[15] Association for Supervision and Curriculum Development, *op. cit.*, p. 31.

4. Teachers may raise a question concerning the relationship between authority and the process of releasing human potential. Is exercise of authority detrimental to release of human potential? Does human potential find its release only in a nonauthoritarian atmosphere?

Studies of authoritarian personalities,[16] particularly in the home, indicate that harsh, threatening parental discipline, parental love that is conditioned upon a display of approved behavior, and concern about family status and family hierarchy seem to produce children who become authoritarian adults. On the other hand, when the childhood situation in the home is characterized by reasonable parental discipline, unconditioned parental love, equalitarian family structure, and nonconcern about family status, the product seems to be a person who lacks authoritarian traits. Extrapolating from such studies, one might suppose that the real issue at stake is how the teacher uses his authority. If authority is exercised with reason and acceptance, and if pupils are given opportunities to make decisions and to take direction in at least part of their schooling, then we may suppose that the effectiveness of authority is beneficial to pupil personality.

Unquestionably, society invests in teachers a certain amount of authority over the lives of pupils. However, the teacher needs to earn the right to use authority by giving evidence of his competence, his humanitarianism, and his discretionary use of the authority invested in him.

5. Teachers may also be concerned about the relationship between "dialogue" and "sequential" learning as related to individualizing instruction.[17] Dialogue learning might be called "mosaic" learning, in that it proceeds from established "islands" of learning to the formation of relationships between the islands. This is the kind of learning that occurs most readily through informal discussion and participation. It is a way of approaching a problem from as many points of view at a time as is possible. It is what occurs in "bull sessions" and friendship groups.

Sequential learning is the kind that usually goes on in schools. A given topic or problem is dissected and its parts are organized into a sequence to be learned in "proper" order. The learner attacks one segment at a time, as in arithmetic or science, and is not allowed to go on to the next segment until he has mastered the previous one.

In mosaic learning, the learning is incidental to the experience. Consider, for example, the way a boy takes his bicycle apart and reassembles it (assuming that he is mature enough to do the job in the first place). He is likely to begin the task at any point and carry it through to completion, with perhaps more than one gentle nudge from his father. He learns much about the mechanism of a bicycle in the process. The process is not formalized, subdivided, and put in sequential order. Rather, learning occurs in a form that can best be described as a mosaic. Insights are obtained wherever possible without having one step built upon another. If the boy were to learn bicycle repair in school, however, the whole process would undoubtedly be unraveled and put into a logically ordered sequence.

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[16] T. W. Adorno, E. Frenkel-Brunswik, D. J. Levinson and R. N. Sanford. *The Authoritarian Personality*. New York: Harper & Row, Publishers, Inc., 1950.

[17] Marshall McLuhan. "A Fresh Perspective in Dialogue." *The Superior Student*, January-February 1962 p. 2.

There are advantages to both kinds of learning. Mosaic learning is more natural and probably more involving and personal; sequential learning is probably more efficient. It is desirable, from the point of view of individualizing learning, to introduce dialogue or mosaic learning in additional portions of the curriculum.

Among the psychological barriers which may prevent teachers from working effectively to release potential in their pupils, then, are teachers' own misgivings about their tasks and roles, teachers' concepts of society and of authority, and their views of dialogue and sequential learning. Despite these barriers human potential is released both fortuitously and by plan. We urge that planning for release of human potential be made in the future much more consciously and carefully than it has been made in the past. Having now considered cultural factors which undergird the planning, we project in the next chapter an image of man which bears directly on ways in which teachers may work with individual learners.

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2/An Image of Man: The Learner Himself

James B. Macdonald

KNOWLEDGE about teaching is directly related to and at times is a direct corollary of man's knowledge of human nature. It is hardly possible to conceive of a teaching situation that does not involve, at some level of operation, beliefs concerning human learning, development and relationships. These beliefs are present and embodied in the actions of teachers as they plan, organize, interact and evaluate in classrooms.

The sources of beliefs about man are varied. Some beliefs are learned through our own developmental experiences as primarily incidental matters, perhaps through the attitudes of others. Other beliefs arise from our common sense analysis of life. Religious beliefs are further common sources of our beliefs about man. And, of course, scientific knowledge can be the cornerstone of our beliefs.

During the past fifty years many attempts have been made to shape the beliefs of teachers about the nature of man. Child study movements, courses in the nature of learning and human development, and the use of psychologists, social workers and psychiatrists in school settings come readily to mind. Whatever form these attempts have taken, they reflect a common belief of a most fundamental nature: that the functions of teachers which promote learning are inseparable from the nature of the human beings who are functioning and learning in the school situation. It is the purpose of this chapter to reaffirm this belief and to rephrase it in the form of a specific image of man which reflects our empirical knowledge of human nature.

Knowledge of man that is open to empirical validation requires more than empirical methodology. It requires a schema for selecting and organizing empirical data. These organizing schemata have been called many things—from metatheory to images of man.

The sources of our images of man are not at all clear. These images are not entirely empirical in derivation; rather they are emergent through the totality of man's experiences. We believe, however, that an image of man is necessary for the selection, organization and interpretation of empirical data. Further, it is our image of man, rather than so-called "facts," which guides us in our conscious cognitive interaction with others. It is this understanding which may help to explain why many research data lie untouched, for without a coherent image of man we cannot expect useful research or intelligent understanding of the results.

Images of man are, however, not free of their empirical groundings. They are heuristic devices to be accepted solely on their successful ordering of the data of human experience within the framework of empirical methodology. Thus, images change as man develops more knowledge about himself and in turn fertilizes the development of further knowledge.

The social scientist as a man is never free from the basic social and cultural value orientations and forces in the milieu of his existence. There are of necessity deep and lasting psychological relationships between the social scientist's scientific image of man and the fundamental values of his total existence. Yet within that limitation there is a range of images within which to order the data of his experience. Nevertheless, one would be remiss in failing to point out the corollary of the proposed scientific image of man and such fundamental social values as freedom, individuality and human dignity.

As we have implied, the purpose of this chapter is to present the outlines of an image of man which at present seem most harmonious with scientific knowledge. This image also corresponds with the personal values of the writer in relation to the task of ordering and selecting experiences with human behavior in the classroom. The outlines of this image of man will be given substance by addressing ourselves to four questions: What process of development? What conditions for growth? What kind of self image? And, especially, what kind of education?

The Process of Human Development

The process of human development is considered here to be a process of becoming.[1] As such, the process cannot be described by analogy as an unfolding of an organism along predetermined paths. It is, rather, a process whereby the person is always in a transactional relationship with his environment. This relationship includes individually unique choices and the vagaries of unpredictable circumstances as well as the mechanisms of biological growth and the predominant socialization processes of a society.

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[1] Gordon Allport. *Becoming*. New Haven: Yale University Press, Inc., 1955.

Development is, in other words, a creative, self-actualizing[2] phenomenon, as well as a predictable pattern of growth and socialization.

The essence of development eludes the viewer unless the realm of personal responsiveness is considered as foremost in the appraisal of development processes. Or, to put it another way, growth, maturation and socialization are much more useful for understanding similarities than they are for the consideration of differences. Thus, when viewing the socialization process, we may readily see how language becomes a part of the child's development; how self-concepts emerge; and so on. What is missing is the dimension of personal responsiveness to the socialization process. Likewise, in the biological realm, the forces of maturation explain much about walking, sexual maturation, etc., but little about personal responsiveness to these developments.

What this means is illustrated when we view man historically and individually. Rather than ask the question, "How could man have come so far in developing such technology and social life?", we are more prone to ask, "Why has man failed so miserably in ridding the world of war, disease, famine and starvation?" Or, rather than marveling at individual men and asking, "How could an Einstein be?" we may ask, "Why are there so few great men?" It is because the answers must lie in the realm of what man and society do to the element of personal responsiveness that the questions are phrased differently. In other words, we are not concerned here with how man can condition, and has conditioned, himself to his present state, but with how this very conditioning process has affected the creative, self-actualizing, personal aspect of his development.

The basic propositions underlying the approach are, then, that man has a personal, self-actualizing and creative capability not limited solely by biology or conditioning; that personal response is the avenue through which individuals stretch and may reach their potentialities; and that a view of human development which wishes to focus upon human potentialities must center upon the developmental aspects of personal responsiveness. Gordon Allport catches this feeling well when he says:

> We maintain, therefore, that personality is governed not only by impact of stimuli upon a slender endowment of drives common to the species. The process of becoming is governed, as well, by a disposition to realize its possibilities, *i.e.*, to become characteristically human at all stages of development. And one of the capacities most urgent is individual style of life that is self-aware, self-critical, and self-enhancing.[3]

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[2] A .H. Maslow. "Creativity and Culture." *Creativity and Its Cultivation.* H. H. Anderson, editor. New York: Harper & Row, Publishers, Inc., 1959.

[3] Gordon Allport, *op. cit.*, p. 20.

In another context, Allport says:

> Hence the individuality of man extends infinitely beyond the puny individuality of plants and animals, who are primarily or exclusively creatures of tropism or instinct. Immense horizons for individuality open when billions of cortical cells are added to the neural equipment of lower species. Man talks, laughs, feels bored, develops a culture, prays, has a foreknowledge of death, studies theology, and strives for the improvement of his own personality. The infinitude of resulting patterns is plainly not found in creatures of instinct. For this reason we should exercise great caution when we extrapolate the assumptions, methods and concepts of natural and biological science to our subject matter. In particular, we should refuse to carry over the indifference of other sciences to the problem of individuality.[4]

The individual life cycle is a process of becoming characterized by the individuality and uniqueness of the human being: not each becoming a man in a generic sense, but each becoming a human individual with myriad potentialities not known or predictable in any absolute sense.

Just as an historical view of man may be seen as facing a "triad of limitations" [5] with the goal of overcoming them, the life cycle view of man has its purposefulness. This purpose may be seen as Buber [6] views it in relatedness, or as Tillich [7] sees it in freedom from anxieties. Fromm [8] calls this goal productivity; and Lindner,[9] productive rebellion. Whatever view of purposefulness we choose, throughout each view runs the thread of freedom and individuality, whether for individual maturities' sake or as the basis for higher relatedness. Whatever its terminal status, it is as Maslow says, "a self-actualizing process," and it is unique to the circumstances and heredity of the given individual.

The development of an individual is an extremely complex and perplexing matter. Theories abound and organizing schemata vary from Freudian phases [10] to development tasks,[11] or normative behaviors.[12] What is most often omitted is consideration of personal response and/or responsibility in the developmental process, and upon this aspect the image presented here is focused.

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[4] *Ibid.*, p. 22.

[5] Robert Lindner. *Prescription for Rebellion.* New York: Holt, Rinehart and Winston, Inc., 1952.

[6] Martin Buber. *Between Man and Man.* Boston: Beacon Press, 1955.

[7] Paul Tillich. *The Courage To Be.* New Haven: Yale University Press, 1952.

[8] Erich Fromm. *Man for Himself.* New York: Holt, Rinehart and Winston, Inc., 1947.

[9] Lindner, *op. cit.*

[10] Erik H. Erickson. *Childhood and Society.* New York: W. W. Norton & Co., Inc., 1950.

[11] Robert Havighurst. *Developmental Tasks and Education.* New York: David McKay Co., Inc., 1953.

[12] Arnold Gesell and Frances Ilg. *The Child from Five to Ten.* New York: Harper & Row, Publishers, Inc., 1946.

What Conditions for Growth?

The optimum development of human potential is related to three sets of conditions which have been called "the a priori conditions," "the social conditions," and "the maximal conditions." [12] Full opportunity for potential to develop is dependent upon the existence of all three sets of conditions, each in its own way.

The A Priori Conditions

A priori conditions are genetic and physical in character. An individual must possess an adequate genetic structure to develop humanness, must experience normal (for him) physical growth, and must have proper nutritional care throughout. The lack of any or all of these conditions will result in the thwarting of the development of human potential. These conditions are important to all animal life but are necessary before human potential may develop. They are "givens" which are basic but not specifically human in nature.

An understanding of physical growth, nutrition, and genetic lack or physiological damage is essential for providing the background of the development of human potential. It is considered here to be the necessary condition for developing potential and will be assumed as background in further discussion.

The Social Conditions

Human beings develop and are distinctly recognizable as such in the context of social relationships which involve the use of signs and symbols. Societies and cultures provide frameworks for the development of human beings. They teach the individual how to act, how to symbolize and conceptualize, and how to perceive himself and his environment.

In order to become minimally human, an individual must learn to interact with others and must operate through the prevalent symbolic system; and in the process, he must learn to "see" himself and his world as others see him. His basic quest is toward mastery of common understandings about status and roles, objects and ideas, himself and others.

The manner by which the individual is "socialized" is also of great importance. The degree of understanding, love, acceptance, recognition, hostility and aggression, for example, will have deep consequences upon his personality formation. So, the content of his world and the process which he encounters will be set by his particular social conditions.

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[12] This idea was suggested by the work of Harley Shands. *Thinking and Psychotherapy.* Cambridge: Harvard University Press, 1961.

Social conditions are minimal conditions. They provide a framework by which the individual becomes human. They are, however, essentially *closed* in nature. No matter what the structure of a specific culture may be, the individual is closed in its symbolic universe and world view, its customs and mores, its functions and objects.

Thus, the basic problem of developing human potential appears. In order to be human, one must experience the closure of the socialization process. One is taught what it is appropriate to be curious about; what things exist and what they are called; how one manipulates these objects of attention symbolically and physically; how one may maintain one's personal integration in this culture (often via defense mechanisms); and how one should perceive and interact with others. Yet, to develop his potential, a person must be open, and it is openness which provides the maximal conditions for human development.

The Maximal Conditions

To be open to life is the maximal condition for developing human potential. To be open in thought—fluent, flexible and original; and open in affect—experiencing the potential feelings in an activity; and open in perception—meeting the potential stimuli in the world: these are the ways to maximum development of human potential. To be open to life, however, is a risky business demanding a "courage to be" and a sound ego integration.

Fingarette [14] has presented an insightful viewpoint for conceptualizing the maximal conditions for reaching potentialities. In essence, this framework proposes that anxiety and ego integration are "two sides of a coin." The state of anxiety (which is more than the common feeling labeled anxiety) is essentially a state of ego disintegration. Ego integration or disintegration is seen in terms of meaning schemes. Thus when life is vital, meaningful, and purposeful, the ego is relatively integrated. When life is experienced as meaningless, dull, or purposeless, a state of anxiety or ego disintegration is predominant.

Meaning schemes are the ways in which one personally relates oneself to one's past experiences, present situations and aspirations in his existent world; and to his understanding of himself, others and phenomena in his object world. Thus, the individual and/or the culture creates meaning schemes to orient himself and/or itself to life as a personal and unique existence, and to life as part of a general structure or system of objects.

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[14] Herbert Fingarette. *The Self in Transformation.* New York: Basic Books, 1963.

When experience is meaningless, living is a state of general anxiety in the sense that present meaning schemes do not promote ego integration at higher levels, but reflect a process of disintegration which most often causes the ego to restrict its functioning in controllable areas. Thus, the process of closure is evident, and the use of defense mechanisms to ward off the movement of the ego into potentially open areas short-circuits the potential enlargement of ego-relevant new experience.

Schachtel [15] speaks of a similar phenomenon in terms of the affective development of the individual. Although for our purposes here his terminology is not as useful, it embodies one concept that is especially descriptive of the viewpoint being expressed. This is the idea of *embeddedness*. Briefly, when the avenues to personal growth and potentiality are closed, they are embedded in an affective state of equilibrium. Thus, the person, under the threat of new experience and activity, is aroused emotionally to seek equilibrium, to return to a lack of arousal. Rather than turning outward and exploring the new, he turns his activity toward restoring the old.

The old may be an embeddedness in primary (personal) meanings, or an embeddedness in secondary (cultural) meanings. In either case, the circuit is closed to the development of potential, and one may say the person is *embedded*.

The individual's ego structure may be viewed according to these two basic postures described in similar terms by Fingarette and Schachtel. Meaningful situations produce either general anxiety or open activity. Anxiety, it shall be argued here, short-circuits the becoming of the individual, whereas open activity fosters becoming; and the process of becoming is creative realization and development of human potential. Thus, as one looks at developmental behaviors as these are received by the world and fed back to the child, one looks for the existence either of anxiety or of open activity. When anxiety exists, one may assume that potential is encapsulated; and when open activity exists, one may look for the enrichment and unfolding of capability.

Anxiety may be the feeling of boredom which is akin to knowledge of the meaninglessness of one's activity for self-becoming. Anxiety may arise from threatened or genuine separation from a state of embeddedness. Also, it may undergird pleasure when pleasure is essentially a need satisfaction which incorporates the object "pleasured" into the safe ground of embeddedness of the subject. It may be productive of hope when hope is mere wishful expectation that somehow everything will change for the better, or it may motivate joy, when joy has the quality of magical fulfillment which suddenly changes the whole character of life and of the world. Or, anxiety may be seen as psychosomatic symptoms which remove the person from an ego-threatening encounter with the world. Whatever its form, anxiety provides the vehicle by which the organism maintains a state of quiescent equilibrium in relation to the environment. This equilibrium is in effect the removal of the self from any new threat in the face of already-felt ego disorganization.

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[15] Ernest Schachtel. *Metamorphosis*. New York: Basic Books, Inc., 1959.

Open activity produces feeling which arises from direct encounter with the world. It is openness and responsiveness to the impact of the world not sheltered by an embeddedness in some other context, but rather a direct transaction. Open activity is stimulation and activity, involvement, and the pleasure of contact with objects "out there." Encounter with reality is the significant aspect of open activity, not the distortion and subsequent incorporation of reality for the sake of equilibrium. It is joy not linked to any expectation but is a felt experience of acts of relatedness. Open activity is realistic hope, founded in satisfactions based in the encounter with reality along the way toward goals.

On the levels of thought and perception, these basic ego structures guide the behavior of the individual. When ego integration is dominant, one "sees" what is in reality to be perceived. The individual's thoughts are bound to the structuring of cognitions to enhance the basic ego structure and affective orientation. When anxiety pervades, one thinks what one needs to think to preserve equilibrium (e.g., "rationalization"), or one thinks what one can grasp as he faces reality.

Human development, then, may be viewed as a biological given with its environmental and social conditioning, and its personal responsiveness in the form of ego orientation and its attendant affective states in the world. It is this last which seals the biological and social forces and processes in embeddedness, or which utilizes the biosocial avenues for greater realization of human potential. Human development forms the contrast between an end product and a never-ending product; the contrast between a closed system which "sees" and "thinks" what it has learned to see and think in its attempt to maintain an adjusted equilibrium, and an open system which reaches outward and inward in active search, discovery and creativeness in its encounter with reality. Furthermore, it creates the contrast between (a) an individual for whom reality *is* the defined and internalized feelings, symbols and thoughts learned in culturally or biologically embedded anxiety, and (b) an individual who experiences reality as *becoming* in the creative transaction between a person and his interactions in the world "out there" and "in here."

Self-Image: The Focus of Action

When ego processes are weak, the behavior of the individual is essentially defensive. Behavior is protective of equilibrium, and the individual adjusts to the world by means of defense mechanisms which accompany distorted perceptions that allow his equilibrium to remain rather than encourage him to take in new information. Weak ego processes are reflected in a negative perception of self as inadequate, undeserving and unworthy; in a perception of others as threatening, hostile and controlling; and in a perception of the world as foreign and forbidding. Thus, the individual so affected experiences the environment passively, with little curiosity and manipulation. Ego strength, on the other hand, is both resultant from and reflected in openness to new experience. In contrast to ego weakness, ego strength is characterized by a positive concept of self, others and the world; and by an active participation in the world. Bower's remarks are most pertinent to the subject. He says:[16]

> Of major concern to behavioral scientists and educators are those factors which encourage a defensive reaction of a person to an event and those which encourage a coping pattern. . . . [in] terms of the thinking of such writers as Klein and Ross[16a] and Murphy[16b] coping is an approach to the handling of stress or a problem of living in such a manner that the result is a stronger and healthier organism—an organism in a more fluid and effective homeostasis, or balance. On the other hand, a defensive pattern constitutes an approach by the organism to the stress or problem that results in a less resilient state—that is, a more fixed and rigid homeostasis. Consequently an organism that employs defensive ego processes will, in time, lose the ability to function freely with new problems.

Perhaps the most useful approach to thinking about the nature of man, with reference to the classroom, is the idea of self-perception. At least it appears that the person's concept of himself is an available phenomenon for inference from observation on the part of the teacher. A student's behavior can be interpreted with reasonable accuracy to reflect certain positive or negative self-perceptions, other perceptions, and modes of behaving in the world.

[16] Eli M. Bower. "Mental Health and Education." *Review of Educational Research* 32:447; 1962.

[16a] D. C. Klein and A. Ross. *Kindergarten Entry—A Study of Role Transition in Orthopsychiatry and the School.* Morris Krugman, editor. New York: American Orthopsychiatry Association, 1958. p. 60-69.

[16b] Lois Barclay Murphy. "Preventive Duplications of Development in the Pre-School Years," in *Prevention of Mental Disorders in Children.* Gerald Coplan, editor. New York: Basic Books, 1961. p. 218-48.
Also *The Widening World of Childhood.* New York: Basic Books, 1962, by the same author.

When the student enters the classroom, he brings with him a self, or reflection of his ego processes, which has been built through his own unique heredity and experience. If the child's self-perceptions reflect adequate ego strength, he will see himself as adequate to the performance of curricular tasks as well as liking what he sees. He will be open to new experiences, ready to grow, willing to experiment and discover. However, when self-perceptions are negative, they have a debilitating effect. Curricular tasks will be seen as too hard and as imposed unreasonably.

The sense of self is present in all children. In the child's early infancy, one sees a gradual acquisition of self-consciousness, a separation of "me" from the rest of the world. By the time a child is ready to walk, it is highly probable that the awareness of "I" is present.

The bodily self seems to develop first. It grows from the stream of recurrent organic sensations from within and the barriers imposed from "out there." The bodily self remains a basic cornerstone of our existence:

> Recent work on sensory deprivation has shown how much we depend on our sensory stream for our sense of self-hood. Subjects who lie inactive on a bed for a day or so, receiving absolutely no outside stimulation, and a very minimum of internal stimulation, complain that they virtually lose all sense of self.[27]

As locomotion develops, the child begins his journey toward autonomy. So strong is the desire to become autonomous that this is often spoken of as a need for autonomy. Whether it is a "need" or not, the beginnings of self-esteem arise in the functioning of the child. He begins to see himself as adequate or inadequate in relation to his experiences and attempts toward autonomous behavior.

The social self-image commences to develop during or shortly after the beginning of autonomous behavior. The child gradually comes to know that his parents want him to be a "good" boy, and that at times he is "bad." Although his conscience is not yet developed, the foundation for goals, purposes, responsibility and self-knowledge is being formed.

Upon entrance to school, the child undergoes an enlargement of his sense of identity and self image. The presence of significant adults and his peer group provides many new and broad possibilities for the enhancement of self. Recognition of different standards and expectations from those of his parents adds immeasurably to his potentiality for self-growth. Shortly, the child recognizes his developing ability to cope with the world as a rational being. Objective knowledge becomes for him a fascinating quest, whether it is in the form of academic activity, baseball averages, or some other kind of socially available "know how."

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[27] W. A. Bexton, W. Flerar and T. H. Scott. "Effects of Decreased Variation in the Sensory Environment." *Canadian Journal of Psychology* 8:70-76; 1954.

As the child grows into adolescence, he in a sense withdraws from the objective world and turns inward in renewed search for identity. The brash reality-testing self becomes a more careful prober of possibilities. On a more mature level, the adolescent tries on many roles much as the preschooler wears different hats. He is searching for his self-identity, his adult personality.

A certain aspect of the total development of self is a striving, purposing function. It is as though the self were continually trying to actualize itself. In some ways, one might say there is a restless, searching quality to the growth of self. Whatever this may be, the self may be said to aspire toward goals or ends which are the individual's own.

The self as a reflection of ego-processes strives toward meanings. These meanings are of two general varieties; they are perhaps best described by the prescriptions "know thyself" and "know thy world." The self is not "actualized" in a vacuum but in a world. The world is, however, primarily as it is perceived by the self. For the world to become only what one feels it is is to retreat into psychosis; but for the world to be accepted only as it is defined, in terms of rational, cultural knowledge, is certainly a form of neurosis. In neither case is the ego integrated into a functional, open and reality-oriented structure.

It should be apparent to all that the growing self must have personal meanings and cultural meanings for adequate realization. Further, it follows from this that the two meaning systems are not separate compartments within the individual. They are (in the healthy state) functionally integrated into the purposive striving of the person.

Success in the attainment of goals becomes of crucial significance to the self. When failures are recurrent in self-relevant, or ego involved areas, lasting feelings of inferiority arise, and defense mechanisms are developed in order to avert encounters which arouse these feelings. When this occurs, the youngster closes his contact with reality and becomes embedded in some structured feelings which will thwart the development of his potential by warding off the learning of new meaning schemes.

Thus the pupil as self provides the teacher with a way of entering the life of the individual in meaningful ways: through helping the pupil see himself clearly, and by fostering his sense of identity and success in his striving toward selfhood. All the learner's experiences are relevant in the development of selfhood. Success or failure, joy or shame, pleasure or guilt and/or anxiety in solving an arithmetic problem feed as directly into the development of self as do peer group reactions or parental attitudes.

Furthermore, the actualizing quality of self places the destiny of the individual within his own hands. To some extent, at least, one may become what one hopes or wishes to be; and a teacher can provide the guidance of this development of realistic hope and desire which may give far more lasting meaning to the life of a child than the multiplication tables per se.

More significantly, the child's concept of self provides him with his most manageable and productive means for self-actualization. This concept is, actually, the only rational way by which the child can enter into his own development to influence growth through the setting of ideals, purposes and commitments which strengthen the ego processes as self-perceptions change. Here is a crucial point at which the teacher may hold open the world for a child.

What Kind of Education?

The implications of this image of man are numerous. The teacher as the socializing agent in the classroom must provide opportunities for children to reveal themselves, must promote relationships which bring about a positive affective climate, and must open vistas of relevant cultural knowledge. These three tasks are intricately related to each other, since the classroom environment which is relatively free of anxiety-producing elements will by necessity offer opportunities for pupils to reveal themselves to self and others and to experience the cultural and physical environment in self-meaningful ways.

Of special significance to anxiety production in the school, as in socializing agencies generally, is the imposition of authority in the context of *right* or *wrong* and *good* or *bad*, rather than in the context of *appropriate* or *inappropriate*. The essential difference between the perception of an act, idea, or feeling as right or wrong, good or bad, rather than appropriate or inappropriate rests in the closing of alternatives in the developmental process, in the stultifying of individual judgment. The feeling of inappropriateness provides a qualification which allows the door to remain open for other circumstances. It poses the question, "What is appropriate in this situation?" without the finality or absoluteness of what is "good" or "right."

There is another way of viewing the concept of appropriateness. Behavior is appropriate when it is personal and a part of the individual's own becoming. We may be sure that a person "becomes" within the context of cultural values. No person is beyond these values unless he is alienated to an extreme degree, for example, as in psychosis. Appropriate behavior should also not be confused with behavior associated with amoral or psychopathetic individuals. Although the hardened criminal, for example, may behave in a completely ego-centered manner "appropriate" to his own gratification, his behavior lacks a feeling relationship to others capable of contributing to his own self-realization.

On the contrary, appropriate behavior is value-directed and moral behavior. It is value-oriented because it is purposeful, and it is moral because it includes self-relevant behavior in the context of productive human relations within which the individual assumes responsibility for his behavior. It is not, however, behavior which serves the purposes of other persons alone.

The question of the motivation of the socializing agent is central to this distinction. When the child is led to feel his behavior to be "right" or "wrong," "good" or "bad," then the motives of the socializing person are drawn from outside the immediate relationship transaction or specific growth context of a given pupil. In a sense, the socializer is attempting to prohibit or avert the emergence of critical or crucial situations by teaching the child not to respond in certain ways. In so doing, the child is deprived of any experience of his own from which he may derive his own feelings of appropriateness. Socially conditioned fears, anxiety, shame, guilt, satisfaction, gratification and pleasure thus encircle the child and cue off externally imposed response patterns, which block the child's own ego integration. The basic question is, then, not one of specific response or behavior, but of the meaning of the behavior (i.e., its function) in the existence of the child.

Bruner's comment about reward and punishment is relevant at this point:

> It is often the case that emphasis upon reward and punishment, under the control of an outside agent such as the teacher or parent, diverts attention away from success and failure. In effect, this may take the learning initiative away from the child and give it to the person dispensing the rewards and punishments. This will be more likely if the learner is not able to determine the basis of success and failure. One of the great problems in teaching, which usually starts with the teacher being very supportive, is to give the rewarding function back to the learner and the task.[18]

Thus, necessary reality testing (assessment of success and failure) can not take place when good-bad or right-wrong embeds the child in a reward and punishment system beyond his control.

Obviously, the crucial aspect of this distinction does not rest in the surface reaction of stopping a given inappropriate behavior, or of exercising authority as an adult responsible for children. The crucial dimension lies in the reflection upon the self created through the overt activity.

We may, in other words, "teach" our youngsters to be "good" and

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[18] Jerome S. Bruner. "Needed: A Theory of Instruction." *Educational Leadership* 20:531-32; 1963.

"right" so that they learn to see themselves in these terms and to have feelings of shame, guilt and anxiety when "bad" or "wrong." The "badness" and "wrongness" encapsulate the developing individual in an affect-embeddedness which becomes a powerful drive for equilibrium, for returning to the security of what is "good" and "right." What we must "teach" our youngsters is to act, feel and think "appropriately" in those situations which call for such reactions, by focusing them upon the search for self-relevant behavior in a wide variety of circumstances.

We must stress the essential difference between "right-wrong," "good-bad," and "appropriate-inappropriate," for in our cultural thinking it is easy to shift the black and white quality of one to the intended meaning of the other. Appropriate behavior, regardless of its action context, is behavior which is one's own self-relevant possession. It has the element of self-acceptance of discovered appropriateness rather than the stamp of human authority beyond the boundaries of one's self. Appropriate behavior, then, is in essence self-disciplined behavior, and more: it is behavior at the service of the individual, not behavior which serves merely something or someone beyond the individual.

The act of recognizing the word "cat" may be any of these things. At [illegible] purely cognitive, judgmental level, it is "right," "good" and "appropriate." But in terms of the affective dimension, it cannot be all things. At this level, the affective, such recognition becomes "I am a *good* person because I recognize 'cat' "; or, "I am *right* in the eyes of authority when I see 'cat' "; or, "When I see 'cat,' it helps me to adjust to my world *appropriately*."

The affective impact of "good-bad" and "right-wrong" built throughout the curriculum reinforces previous embeddedness-affect in youngsters. Learning becomes an affect-embedded necessity to maintain balance by escaping shame, guilt and anxiety, and seeking socially approved satisfaction and gratification. For those incapable of academic success in the school program, embeddedness at a nonschool level is reinforced and is seen by such behavior as withdrawal, aggression, illness, and fantasy. The school, in other words, facilitates the social or autistic embeddedness of the developmental process that alienates the pupil from social norms.

The teacher stands, in many ways, at the crossroads of meaning in the life of the pupil. On the one hand, he is attempting to stimulate the accumulation of, and provide the opportunity for, growth in the understanding of human knowledge. On the other hand and at the same time, the teacher must provide or stimulate an immediate, expressive commitment to the meaning of now. The immediate meaning must be generated out of creation of a new vision which serves as the context for new commitment, or motivation. The more general and longer-range meaning is part of the development of a rational, cognitive, systematically usable world view or meaning scheme. Thus, the pupil must have a meaningful relationship to himself and his immediate commitment, and to his world and his cognitive structure of it.

The concept of motivation in learning is the closest common referent for the idea of immediate commitment to a meaningful experience. The great misunderstanding of this concept in education has led to a failure of teachers to stand between the two meaningful contexts, between the personal existence meaning scheme of the pupil and his cognitive, culture-oriented meaning scheme. Rather, the usual concept of motivation has been a manipulative procedure whereby teachers attempt to "motivate" learners from the vantage point of one meaning system.

To stand between the two meaning systems means to stand with the pupil. It does not mean to stand in the *personal meaning system* of a given individual, nor to stand in the *common meaning system* of a society. Rather, it is centered in the reality of the person whose self-realization is dependent upon the growth of ego integration through the discovery and internalizing of more and more productive meaning schemes in both spheres.

Within recent years, Louis Raths has spoken much about the process of value clarification in the schools. This would seem to be one fruitful way of stimulating a student to examine his self-image and by so doing to lead him to identification of purposes and goals and rejection of defense mechanisms. The value clarification process thus would seem to be a teacher strategy for developing self-relevant aspirations, increased ego strength and involvement in life's activities, or, in other words, a strategy for standing with the pupil between his two meaning systems. As Raths says:

> If we want these children to have a deeper understanding of themselves, and a better comprehension of their own epoch, it will be necessary to introduce curriculum materials which are consistent with these ends. And, in addition, the curriculum materials must provide the opportunity for children to express attitudes, feelings, beliefs, interests, purposes, aspirations, and to discuss their activities, in and out of school.[18]

The behavior of the teacher is central in the clarification process. It is a questioning behavior which is essentially nonjudgmental and which does not reject pupils' answers. Sometimes the teacher may repeat what a pupil has said and ask if that is what he meant. At other times, he may ask a pupil to define his terms. Always the teacher *listens,* and listens with the belief that learners try to make things clear to the teacher, but that first they must be clear to themselves. There may be times when the teacher simply asks the pupil to elaborate, or to tell what he thinks is good about a particular idea, belief, purpose or activity. Should everyone think and feel this way? Is this an important or significant idea? Perhaps the teacher may sense an inconsistency and ask the pupil to think about it. Regardless of the question asked, the interaction in the clarification process is clear. It is an attempt to help a youngster see himself more clearly and to provide him with a useful vehicle incorporated in a teaching strategy to think about and clarify his own aspirations and desires and his relation to the environment in which he lives.

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[18] Louis Raths. "Sociological Knowledge and Curriculum Research." *Research Frontiers in the Study of Children's Learning.* James B. Macdonald, editor. Milwaukee: University of Wisconsin-Milwaukee, 1961. p. 27.

The development of thinking goes hand in hand with value clarification. Clarification of values always involves thinking, and a curriculum oriented toward value clarification will have a problematic character. Both value clarification and thinking share the unique characteristic of humanistic rationality. It is this ability to achieve rationality which the Educational Policies Commission has called the "central purpose of American education." [20] Rationality is not to be confused with cognition or knowing, for to be rational is to think with values. The process of mere knowing can lead one astray, as is illustrated by the old cliché of "knowing the price of everything and the value of nothing." This is not the process used by the rational being, for whom thinking and valuing are always interlocked.

In relation to thinking, Raths again has relevant suggestions for teachers.[21] Curriculum tasks can be oriented toward the maximizing of possibilities to develop thinking at any level and can be woven into the patterns of methodology to the enhancement of self and society. The process of making *comparisons*, of seeking similarities and differences between poems, characters, life forms, mathematical proofs, or language translations involves the exercise of thinking and judgment. *Summarizing* experiences, or stories, or text material, or discussion will foster rational behavior and expose values to be clarified. To pose *problems* for solution, to make systematic *observations*, to *classify* and *criticize* provoke thought and decision-making.

Imagine you are at the North Pole, or that you could solve the problems of our times. What would you need, and/or what would you do? What is the meaning of what Jones has written? *Interpret* these data and tell what reasonable conclusions can be drawn. Look at these advertisements and *analyze* them. Tell what you feel the motives and methods of the advertisers are. Construct *categories* to group these motives and methods. Or perhaps, follow the most mundane but fruitful procedure of all: planning—planning for activities, for projects, for gathering appropriate resources, for doing research on a topic, or for the use of personal or group time in or out of school.

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[20] Educational Policies Commission. *The Central Purpose of American Education.* Washington, D.C.: National Education Association, 1961.

[21] University of Wisconsin-Milwaukee. *op. cit.*, p. 28-30.

Central to all these processes is their rationality, their use of reason, value and choice. Each process demands individual commitment or use of judgment as the mind is put to use by the individual. Each outcome is unique to the individual, is tied to his own ego and his perception of self, and contributes potentially to the development of a more adequate self-concept.

Implied within these processes are nuances of relatedness, relationships to human beings and to one's cultural and physical world. As Huebner observes:

> Relating to others cannot be a goal of life or education, for it is the *sine qua non* of human existence. To relate or not to relate to others is not a choice offered to the child, nor even to the adult. The problem is not to relate to others, but to find a mode of relationship, and a way of talking about that relationship which offer the greatest meaning today.[22]

The teaching-learning situation is a relationship whose intention, on the part of the teacher, is to foster and provide other relationships or transactions. Thus we may say that the personal characteristics of individuals are important, but values, thinking and needs find their expression in relatedness. The quality of this relatedness may well determine the directions of personal development in both immediate commitment and more pervasive cognitive structures.

Ashley Montagu's *Education and Human Relations*[23] develops in detail the theme of human relations as the primary meaning of education: to be educated is to be humanized, not to be instructed. It is well to remember, however, that human relationships are not ends but the sufficient conditions for becoming a social being. What kinds of relationships will provide the conditions for a maximum amount of open activity for pupils?

Bills,[24] Rogers,[25] Murphy,[26] and others most certainly offer cues concerning teacher attributes and behavior in relatedness which will facilitate the development of human potential as conceptualized in the context of this image of man. Perhaps an even more direct way of discussing this image is through the existential concept of authenticity.[27] Regardless of which approach is taken, the view of becoming which we accept will include, in some form or other, what Rogers [28] discusses.

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[22] Dwayne Huebner. "New Modes of Man's Relationship to Man." Association for Supervision and Curriculum Development. *New Insights and the Curriculum.* 1963 Yearbook. Washington, D.C.: the Association, 1963. p. 144.

[23] New York: Grove Press, Inc., 1958.

[24] Robert E. Bills. "Education Is Human Relations." Association for Supervision and Curriculum Development, *op. cit.*

[25] Carl R. Rogers. *On Becoming a Person.* Boston: Houghton-Mifflin Co., 1961.

[26] Gardner Murphy. *Freeing Intelligence Through Teaching.* New York: Harper & Row, Publishers, Inc., 1961.

To facilitate pupil growth, teacher behavior must be *congruent, i.e.,* consistent with the teacher's real self. The teacher must be what he is without false pretenses. The teacher must, in other words, meet his pupils person-to-person, not status-to-person. When teachers hide behind status, pupils do not reveal themselves, and consequently their potentiality for growth is limited, for they are closed to avenues of development. The teacher who is genuine provides the pupil with the possibility of an authentic or direct, unmediated contact with reality through a relationship. The teacher who is otherwise raises defenses within the learner.

Empathy is a second cue to teacher-pupil relatedness. A teacher must be able to sense pupils' personal meanings as if they were his own. This ability is essentially different from understanding as an evaluative judgment. This ability is, in contrast, a total feeling, one of knowing rather than of making a cognitive statement about another person. The teacher enters the reality of the world of the pupil rather than arousing the perceived reality in terms of outside reality norms.

Positive regard is intricately related to congruence and empathy. It refers to having a positive attitude toward the pupil, to prizing him as a thinking, valuing person beyond his immediate actions. When a pupil is positively regarded, he is freed in his feelings to be what he is at the moment, thus opening up his own reality to himself. This is not permissiveness in its paternal or sentimental aspects, but a directed respect for the individuality of the person.

Thus, in the processes of clarifying values, developing thinking, and relating to pupils, the teacher may find cues to opening of experience and growth of potential in pupils. Through these processes and possibly others, the teacher can gain access to the two areas of meaning-schemes so necessary for the growth of human potential.

The child may grow large (biologically) in school, may learn well (perform academically), and may act sociably (get along with others) without the school's contributing a great deal to the development of human potential in the developmental process. The school can lay claim to the effects upon performance which would not have come without the school experience. But developmentally, any procedure which reinforces embeddedness is a "penny wise-pound foolish" procedure which thwarts the development of self-identity and ego involvement in life. The schools may be generating adequate role players at the cost of human development. For, as Fromm says:

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[27] For example, Donald Vandenberg, "Experimentalism in the Anesthetic Society: Existential Education." *Harvard Educational Review* 32:155-87; 1962.

[28] Carl R. Rogers. "The Interpersonal Relationship: Core of Guidance." *Harvard Educational Review* 32:416-29; 1962.

> It is the fact that man does not experience himself as the active bearer of his own powers and richness, but as an impoverished "thing," dependent on powers outside of himself unto whom he has projected his living substance.*

The school which recognizes the image of man we have been discussing, and which incorporates the image in its curriculum is not child-centered, or society-centered, or subject-matter centered. It is *reality*-centered. By this, we simply mean that the school does not exist primarily to inculcate our cultural heritage, not principally to develop role players for society, nor primarily to meet the needs and interest of learners. The school exists to bring learners in contact with reality, of which our society, ourselves, and our cultural heritage are parts.

The basic goals of the reality-centered school are to meet the unmet needs of learners, i.e., to free them; to develop thinking and values in relation to our cultural heritage; and to encourage creative response to reality. Embodied in these goals is an awareness that learners must be free to explore; must have symbolic tools for exploration; and must focus upon culturally- and socially-defined concepts or foci as points of orientation for exploration.

In the reality-centered school, a thing exists not only to be mastered and imitated, but also to be discovered and invented. Reality and man's symbolic glasses for viewing it stretch to infinity. Symbolic forms are utilized to meet all of reality. To catch a bird in the net of a child's view is to perceive something to be classified, examined, counted, described, observed, rhythmically felt, poetically known, and otherwise related to one's own personal meanings. For there is certainly as much melody in a bird as there are feathers to count, as much rhythm in the reality of a bird as there are behaviors to observe.

The basic methodology of the reality-oriented school is simple. It is founded upon the proposition that all children are self-actualizing, and that curiosity is basic to this process. Children's activity is centered in seeking, searching, discovering, inventing, trying, exploring, researching and experimenting. Teacher behavior is characterized by stimulating, guiding, clarifying, helping and supporting.

The reality-centered school is an "open" school. Here, learning is seen as the outcome of personal responsiveness to wide varieties of stimulation and wide usages of symbolic media. Children are seen as unities, self-actualizers and creators. The function of the school is to challenge and stimulate the child's creative encounter with reality. Social relationships are also seen as objects for stimulation and creativeness, not simply as closed normative procedures for facilitating other kinds of learning. The communication process in this milieu is characterized by more emphasis upon object stimuli themselves without the necessity of continued mediation by the teacher and other secondary sources.

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* Erich Fromm. *The Sane Society*. New York: Holt, Rinehart and Winston, Inc., 1955.

Contrast this with the "closed" school. Here, learning outcomes are synonymous with evaluated performance. Learning is described as conditioning and/or reinforcement, problem solving (with predetermined answers), remembering, and recognizing. The children are organisms, or role players, or types. They are objects to be manipulated and consumers of school goods. The function of the school is simply life adjustment, or occupational preparation, or cultural indoctrination, literacy or citizenship. Social relationships are primarily bases of confirmation, sanction and motivation; and communication is a process of attending to predetermined stimuli with the production of predictable responses. Everything is, in a sense, inside the reality of prestructured relationships.

In a reality-centered school, tests and grades per se function only to facilitate a broader evaluation of two types. Individual progress is seen through the feelings of individual worth and productiveness, satisfaction and gratification experienced by the learners under the guidance of the staff. Program evaluation is in terms of the degree of involvement, vitality, enthusiasm and productive work (thinking and valuing) which exist. The key to evaluation is quality of *living* as previously described in the school environment, for the reality-centered school recognizes that *living is learning and the quality of living is the quality of learning.*

Against this image of the learner in a reality-centered school, we project in Chapter Three some uses of subject matter in releasing human potential through teaching.

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3/ A Child Goes Forth: Ideas Invite Involvement

Frances Minor

There was a child went forth every day
And the first object he looked upon, that
object he became,
And that object became part of him for the day
or a certain part of the day,
Or for many years or stretching cycles of years.

—WALT WHITMAN[1]

A GIRL of seven skipped down stairs to the street. "You're a teacher," she said, pointing her finger. "How do you know?" the teacher asked, startled by the suddenness of identification. Pointing to her playmate, who skipped up behind her, "I just know. *She* didn't tell me. Nobody told me. I just know."

Rue as we may the possibility of a stereotype, the youngster had discovered *pattern,* some regularity from which her generalization had been derived. This, in turn, served her to predict—very accurately in this case. Her data were the stuff of the world. Though seemingly yet incapable of analyzing it, she "owned" it nonetheless, had shaped it, had given form to her content.

On the baseball field a boy is at bat. Surveying the field, he sizes up both the players and their positions, gets the feel of his bat, considers his "job," and then makes his choice. He relates what he sees to what he thinks he can do. In scanning the field, he derives the data he needs, searching for initial possibilities to make a strategic choice, the best combination relevant to his problem. He has collected *his* data, and has organized the stuff of *his* world: all the years of holding, rolling, throwing, and hitting a ball, again and again, various distances and innumerable times. The act of shaping and reshaping his data has totaled to this. He may not yet have reached a point in his development where he is able to analyze what he has done, but his body owns the information he uses for his present task.

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[1] *Leaves of Grass.* New York: Random House, 1950. p. 287.

The grace and skill of young girls skipping rope never cease to amaze us. The knack for slipping in, just as the rope has passed, to be well set for the skip, and the ability to time: these are not simple arts. Then: "Double Dutch!" Two ropes are in alternate counter-rotation as the youngsters hop. To a physicist, this is a difficult problem. He would speak learnedly of frequencies, and of rotational and harmonic motions. He would, with difficulty, establish the "phase angle" between jumper and ropes, while the speed of rope-turning and the timing of hops would become trigonometric functions to this wielder of the slide rule.

Not so for the youngster, chanting an age-old rhyme as effortlessly she hops. Pressed for an explanation, she will likely reply, "Well, I don't know . . . . You just sort of jump, I guess." How can she put into words the skills she has learned by watching the older girls, by listening to slaps of rope on the ground, by long apprenticeship as a rope turner? She probably does not realize how often she has swayed in time with the rope, her body absorbing the timing; or how often she has watched the eyes of the jumpers and has softly chanted the rhymes to herself while others have jumped.

The youngster at the swings in the playground with his older brother also comprehends the basic physical laws of the world. With no more instruction than "Now you push me!" he is capable of sending the larger boy through a wide arc. How has he grasped the concept of "natural resonant frequency?" Does he consciously understand that the push he gives must be timed to the square root of the length of the swing and inversely with the acceleration due to the earth's gravity? Or is it that somehow, inside himself, he has recognized the physical relationship between the timing of the push and the motion of the swing? He has literally and figuratively learned through the seat of his pants.

Children Shape the Content of Their World

Here, in its forming, is a "natural spontaneous concept."[2] The child at the swings may not operate on the same analytical level as Galileo, who was the first to explain the isochronous nature of pendulums, nor is the ball player at bat conscious of solving his problem with Newton's laws of acceleration. These children still cannot reflect on what they have discovered. They cannot explain the *why*, but they nonetheless utilize the rich, organized content of their experiences.

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[2] L. S. Vygotsky. *Thought and Language*. Cambridge: The M.I.T. Press. Massachusetts Institute of Technology. 1962. p. 108.

> The child becomes conscious of his spontaneous concepts relatively late; the ability to define them in words, to operate with them at will, appears long after he has acquired the concepts. He has the concept (*i.e.*, knows the object to which the concept refers), but is not conscious of his own act of thought.[8]

Youngsters of all ages and backgrounds have varied experiences with objects in space and time. It is in the very nature of the human organism to orient itself to its natural, physical environment. With this stuff of the world each of us must establish ties; this indeed, is the stuff of the scientist's world. Children receive data from *their* world, correlate significant items, and "predict" future results by applying the ideas they have gained. They utilize all their senses to take in data, and they respond directly in motor fashion, yet they are constantly observing, comparing, organizing and reorganizing the content of their world. Here we would convey no implication that such activity constitutes scientific research, because the child, seemingly, cannot yet reflect on his own act of thought. He appears limited in his realization of what may have relevance, while his ability to discriminate essentials from nonessentials has yet to be developed. Thus, at such a stage, *every* experience becomes grist for his mill. For educators, a key idea is: children *do* shape the content of their world, and the shape of content assumes the stamp of a unique personality, becomes a reflection of individuality.

Most of the illustrations used to this point have dealt with grasping the relations between one's body and the physical world. Yet a child must also grasp the relations between himself and the world of people. In sensory-motor fashion, he feeds on the world about him and digests it in his own particular way. He observes adults with an ear keenly attuned to nuances of inflection. Imitation and active role playing enable him to get the "feel" of difference. As he assumes the postures and attitudes of those about him, the tone of voice and the words of mother or father, big brother or sister, teacher, policeman, doctor, he discovers the patterns that reveal individual identity. He explores the world to discover himself. As he learns what others are like, he is able to identify himself more adequately. He absorbs the data bodily. Intuitively, a child responds to his environment. Just as in his relationship with the physical world, his predictions, made on the basis of his notions of adult life, meet with varying degrees of success, so his eyes, ears, fingers, nose and mouth inform him of what alterations in his relationship with the social world are necessary. This feedback and the original signals, operating as they do through the child himself, receive the stamp of the child's unique personality. It is *his* eye and *his* ear and *his* evaluation of *his* data thus presented which determine both the quantity and quality of feedback. This is the essence of personal meaning. Personal meaning grows out of involvement with the stuff of the world, received through all the senses and shaped as one discovers its revealed regularities, its pattern. "Meaning . . . is . . . a function: it rests on a pattern."[4]

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[8] *Ibid.*, p. 108.

Throughout the ages, man has been concerned with the discovery of pattern as he has surveyed the world of which he is a part. He has given form to the content of his world. However, he has not done this once and for all time. He has structured and restructured his world as he has become increasingly conscious of additional pieces to be included in his repertoire. Children, too, are constantly involved with this search for pattern. Each child, in his development, finds it necessary to shape and reshape the content of his world and, as he encounters more and more elements, he must include these in his nascent model.

Yet something happens to separate the child from the stuff of his world. How and when does this schism occur?

> When I heard the learn'd astronomer
> When the proofs, the figures, were ranged in columns
> before me,
> When I was shown the charts and diagrams, to add, divide,
> and measure them,
> When I sitting heard the astronomer where he lectured with
> much applause in the lecture-room,
> How soon unaccountable I became tired and sick
> Till rising and gliding out I wander'd off by myself,
> In the mystical moist night-air, and from time to time,
> Look'd up in perfect silence at the stars.[5]

Man and Child or Man vs. Child?

The poets have long expressed their revulsion at dry-as-dust scholarship. They are not alone. Many children have expressed similar revulsion. Somehow in our view of content, we have failed to mesh the content to be taught in the schools with that which the children bring to school. Children feel this schism between themselves and their world. Could it be that we, in "teaching the facts," have hidden many realities of the world?

> By themselves, facts do not give us reality; on the contrary, they hide it, which is to say that they present us with the problems of reality. Facts cover up

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[4] Suzanne Langer. *Philosophy in a New Key*. New York: Mentor Books, 1942. p. 56.

[5] Walt Whitman, *op. cit.*, p. 217.

reality; while we are in the midst of their innumerable swarmings we are in chaos and confusion. In order to discover reality we must for a moment lay aside the facts that surge about us and remain alone with our minds. . . . Reality is not a datum, not something given or bestowed, but a construction which man makes out of the given material.[6]

Under the burden of myriad facts which man has defined as knowledge, the wonders of the world have been lost to far too many of our children. The fascination of achievement that comes with the ordering of one's world is gone. Patterns are obscured by the chaos of too many bits of data. Too little or too much serves equally to make ordering of one's world difficult. Information rests in the organization of the data. Herein lies harmony discovered. The "feel" of how the pieces fit together is a prerequisite for "latching onto" the world. The natural, spontaneous ordering that comes by way of body response described in the rope jumping, the swinging, the time and distance judgment on the ballfield constitutes the initial "feel" of order. It is this grasp for order that propels man to construct and reconstruct his reality from myriad facts.

A key to the problem of schism may be the fact that, in schools, teachers have taken from the child a vital function—participation in shaping the content of his world. The world of the child is the same in substance, atom for atom, brick for brick, star for star, as the world of the adult. One way in which teachers have deprived the youngster of active participation in shaping the content of his world derives from having given him "content" in established forms, preordained and absolute. Tutored and trained in "proper" perspectives, the child loses his most precious birthright: putting the stamp of his unique personality on the understanding of the world of which he is a part; seeing things in the freshness of his naiveté. Instead, teachers have made it the task in too many schools to learn the world which is mandated, bit by bit.

Yet the dynamic nature of man's conceptions precludes the preordained and the absolute. Throughout history, rigidity of form has disserved the creation of new knowledge. As long as mathematicians believed in the "self-evident truths" of Euclid as the only "eternal verities," man was bound to this one formulation. Then in 1826, two millennia later, it occurred to not one but three mathematicians (Lobachevsky, Bolyai, and Gauss) simultaneously that these were man-made assumptions.[7] At this point, mathematicians were released for the leaps and bounds which they made in the knowledge of their field: more development in the seventy-four remaining years of the Nineteenth Century than in the prior twenty-two hundred years!

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[6] *Man and Crisis*, by José Ortega y Gasset. Copyright © 1958 by W. W. Norton & Company, Inc., New York. p. 13.

[7] Lillian and Hugh Lieber. *Human Values and Science, Art and Mathematics*. New York: W. W. Norton and Company, 1961.

Even as men have been released from the binding rigidity of forms, so must children be prepared for being released. There is nothing as deadening to human creativity as forms *imposed* on content.

> Form is based, first, upon a supposition, a theme. Form is, second, a marshaling of materials, the inert matter in which the theme is to be cast. Form is, third, a setting of boundaries, of limits, the whole extent of idea, but no more, an outer shape of idea. Form is, further, the abolishing of excessive materials, whatever material is extraneous to inner harmony. . . . *Form is thus a discipline, an ordering, according to the needs of content.*[8]

In the rigidity that deprives the child of forming his content, we have denied his identification with mankind. This is the substance of man-child alienation. What men have discovered, children receive in predigested form. When the child is not initiated into the mysteries of exploration and discovery, the wonders of man's systems for ordering the world are lost to him. The child fails to see himself as a partner in inquiry and as partner in the shaping of content. Under these circumstances, what the school offers seems far removed from the world with which the child is involved. He feels alienated—separated from the mainstream. To overcome this alienation requires establishing identity ties with mankind. This is the key to personal involvement.

A child who begins to recognize that the stuff of man's world is the stuff of his child's world and that the senior partner has done some wondrous things with differing modes of organization, feels that identity. He asks: "What does this mean to me?" As he grows toward maturity, he asks further, "What difference will this stuff make in who I am; who I may become?" These questions are posed, then, not merely in terms of material rewards but in terms of human potential, revealed only in the process of living. A child may begin to sense the vast range of human potential as he becomes increasingly aware of the concepts conceived by man, generated through eons in the process of exploring his natural and physical environments and establishing ties with the world. Neither child nor man knows the limits of what there is to explore, nor how what human beings do discover may serve to reshape the content of our world.

Today's scholars and educators are very much involved in thought and discussion about structures of knowledge. All fields are in ferment, with a new consciousness that reflects man's ability to look back the way he has come and to reorganize the patterns inherent in what he has explored and discovered to date. Scholars in the fields of biology, chemistry, physics and mathematics are attempting an organization of the data in their respective fields which concentrates on catching and holding the mind because such organization makes sense to the learner even as it does to the scholar. Says Whitehead:

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[8] Reprinted by permission of the publishers from Ben Shahn's *The Shape of Content*, Cambridge: Harvard University Press, 1957. p. 70.

> We cannot think in terms of an indefinite multiplicity of detail; our evidence (data) can acquire its proper importance only if it comes before us marshalled by general ideas. These ideas we inherit. . . .[9]

When scholars and educators realize what ideas serve as organizing agents, they use these ideas to spark exploration and discovery, and the pupil is invited to participate in the processes of inquiry. What man has learned through the ages is thus put to use to save the next generation from the laborious ways taken by each past generation in its reach for knowledge. Men are learning that they can bequeath to their children a heritage of cultural content through *involvement in the processes of exploration and discovery*. Child, youth and man become partners in inquiry, a first step toward healing the schism.

Even as they are aware of man's new structuring of knowledge, scholars and educators must also be aware of the structuring of man himself. There is danger in that, all too often, we tend to separate thought from feeling, for there is a profound relation between intellect and affect. Thought is bound up with the fullness of life, with all the personal sensing and responding that take place in an individual's interplay with his environment. It is feeling that initiates thought.[10] Ideas themselves are often transformed by the vivid evidence of emotional experience. Active emotional involvement must grow in the process of searching, and desire for such involvement dies in passive listening accompanying mere telling.

A child can mesh with the stuff of his world, which needs forming to inform, only under conditions which allow and encourage *response with feeling*. If we are not to tell; if we are to encourage personal sensing and responding, personal exploration and discovery; if we are to value fully the relation between thought and affect, what is our responsibility as educators? What is there to share with our children that will help them to capitalize upon that which they share with all mankind: the need to order the data, to shape the content? Are there some clues, perhaps, that invite ever-increasing participation?

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[9] Alfred North Whitehead. *Science and the Modern World*. New York: Mentor Books, 1954. p. 187.

[10] John Cohen. "Individuality of Thought." *Identity and Anxiety*. Maurice Stein, Arthur J. Vidich, and David Manning White, editors. Glencoe, Illinois: The Free Press, 1960.

Clues: Ideas That Invite-Compel Search

The kindergarten: youngsters are working with jigsaw puzzles. Some, without hesitation, move to complete the most difficult designs; others struggle in limited, nonpatterned trial and error, and then dump the whole thing. What is this basic difference between children? One group has been cued for action, knowing there are clues in color, shape and size. Some children seem to discover these cogent clues on their own. Others discover but one or two clues, and still others are seemingly unaware that there is anything significant to look for. These are the lost, the frustrated, apparently lacking means for "latching on."

A pupil who is given a significant clue may be released for exploration, even as mathematicians were released by the notion that postulates are man-made. If the teacher knows what is involved in the solution of a puzzle, then observation and/or questioning should reveal those clues which any particular pupil employs. Now, the teacher may intercede for the "lost one." The teacher will *not tell* him merely where to place pieces. Rather the teacher may suggest that the pupil feel around their edges, to encourage using each sense for obtaining information. The mandate to the teacher is: *Give him a clue: to use his sense of touch.* This action leads the pupil to necessary information while he is still involved in his search for, and organization of, data. A spreading grin of delight, at the ensuing competence, is the teacher's reward.

Thus, the teacher intermediates, rarely interferes; and this form of mediation is accomplished by the clues which may release the pupil for more exploration, to further shape and reshape the content of his world. Such release can guarantee personal involvement in learning. Which clues are there to invite, or even compel, participation in search? Which clues are there to serve as threads to guide one out of a labyrinth of data?

Now comes a hint for action, a first clue. We must *awaken all our senses.* To be fully alive and involved with the world, of which we are integral parts, requires fuller utilization of all sensory apparatus. Intake of data is severely limited if we use only our eyes. For children, the primary mode of learning is naturally multisensory. This fact we have long accepted, but we may erroneously suppose that multisensory learning is necessary for only the early years of childhood. Once we have mastered the printed word, everything, it seems, must come to us through our eyes alone. Yet the geologist or the chemist, for instance, may derive many data through touch, taste and smell as well as through vision. Apparently we limit the use of our eyes to the printed page, depriving ourselves and our children of vital encounter with the stuff of the world. Indeed we deprive ourselves of that spark which sets the fire of our involvement in the depths of knowledge. "In obtaining an eye for an ear, Western man clearly abandoned depth or structural knowledge in favor of applied knowledge."[11]

We come too soon to take our sensory apparatus for granted and thus fail to recognize this prime source for data gathering. As a consequence, data processing suffers, for inadequacy of data can impede the discovery of pattern, a prerequisite for the forming of content. Honing the senses becomes, necessarily, a teaching responsibility. Teachers, recognizing the import of sharpened sensory awareness, send out messages in the opportunities they provide for a reawakening of the senses.

Those deprived of the use of one or another sense have much to tell us of human potential in sensory utilization. Michael, who cannot see, demonstrates his acute sense of hearing as he plays ball in the park, and he displays his informing sense of touch as he explores with his fingers a topographical map of the United States. Greg, who cannot hear, reveals remarkable ability to take in the stuff of his environment through his eyes and hands. In the forming of words when he attempts speech, he feels sound more than he hears it. His body is alive with its sensing and responding. A significant increase in the quantity and an alteration in the quality of data occur with the sharpening of the senses.

One basic evidence of individual differences is the manner in which each person takes in sensory data. All too often, despite what we say about individual differences, we assume that every child receives sensory data in the same manner. Working with youngsters who have learning difficulties indicates that there are sensory preferences in children whose complete sensory equipment is intact. For one pupil, kinesthetic experiences must be utilized to reinforce what the eye sees and the ear hears.[12] For another, the inability to shift from one sense mode to another creates problems in reading.[13] The teacher must provide opportunities for and encouragement of fuller utilization of senses whether in kindergarten or the twelfth grade. Failure to do so deprives youngsters of indispensable data.

The clue that sharpening the senses has much to offer operates in two directions. As opportunities are provided for pupils to discover and gather a wealth of information, teachers have the opportunity to discover and gather a wealth of information from children. The teacher should consider what a particular pupil's sensory preference is, how his preference may be utilized, and how the pupil may be stimulated to fuller awareness of all his senses. The clue oscillates from teacher to child to teacher with much information for both. The *specific* nature of a child's strengths and difficulties is revealed in two-way communication which moves educators far beyond gross categorizing of individuals as "slow," "average" and "bright." Differentiation of instruction may then be based upon more profound diagnoses of differences in sensing and responding.

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[11] Marshall McLuhan. "We Need a New Picture of Knowledge." *New Insights and the Curriculum*. Association for Supervision and Curriculum Development. 1963 Yearbook. Washington, D.C.: the Association, 1963. p. 62.

[12] Newell C. Kephart. *The Slow Learner in the Classroom*. Columbus, Ohio: Charles E. Merrill Company, 1960.

[13] The Institute of Developmental Studies, Department of Psychiatry, New York Medical College, has been investigating visual and auditory efficiency of children and the ability to shift from one modality to another. Children who have difficulties in learning to read have been found deficient in ability to shift from modality to modality.

Here is a second clue: *search for pattern*. Man has long since discovered this to be his major clue in ordering the stuff of his world. By observing repetition and regularity since time immemorial, he has derived his generalizations. Pattern is an arrangement of parts, elements or details that suggest a design or an orderly distribution. Pattern reveals a complex whole, characterized by a definite arrangement or interrelation of parts —so says the dictionary. The true nature of pattern is rhythm; personal involvement seems to grow out of bodily rhythms. Initially, the child discovers patterns intuitively in the way that children previously described discovered them.

This writer recalls a recent experience, a first experience in the warping of a loom. The teacher explained the step-by-step sequence. Despite concentrated effort, the learner could not remember the sequence. Then, by *watching* the teacher's movements, she caught the rhythm. There it was! One body moved through the same rhythmic pattern as the other, and out of bodily rhythm, memory was created! A somatic knowing was established. Step-by-step analysis followed, but even then with difficulty. Is it possible that this rhythmic factor contributes to a body's innate knowing by virtue of which intuitive leaps are made? It is the body that remembers the pattern. There is evidence, too, in this era of electronic sensory research, of the rhythmic nature of our sensory motor apparatus and of the presence of a pattern in the very intake process. "We have reason to believe that sensations are based rarely if ever on the frequency code of one single afferent, but rather on a multi-fiber modulated pattern which is transformed on the way to the final receiving centers of the brain."[14] At this stage of man's knowledge of himself and the world of which he is a part, there seems to be a meshing of what essentially is the biological nature of man, his own rhythmic patterns, with those patterns he has discovered from the world.

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[14] Ragnar Granit. *Receptors and Sensory Perception*. Reprinted by permission of Yale University Press, New Haven. Copyright 1955 by Yale University Press. p. 7.

As Granit says: ". . . all possible worlds are within us; they are our present and inherited responses to information from sense organs laid down with reasonable phylogenetic constancy."[15]

Pattern reveals the essence of a structure, its essential form. If we can orient our youngsters toward discovery of patterns inherent in their environments of persons and things, they will remain active participants in the world. The discussions of educators and other specialists regarding the inherent structures of man's organized knowledge are pointed in this direction. "Our electric mode of shaping the new patterns of culture and information movement is not mechanical but biological. This is the shift to structure in the process of education today."[16]

It is in the word "biological" that we may have a key to the reestablishment of ties between the child and the stuff of the world organized into his school subject matter. Can we not capitalize on this biological mode of learning? The wonder of it all is evoked from sensing and responding to *the wholeness of things*. Teachers need to develop

> . . . prototypes of experiences aimed at the appreciation of structure through engaging the children in actually building at least part of the structure themselves. In this sense the learning described is really more akin to an artistic than to a scientific experience; it is suggested that the art of mathematics is more readily accessible to being appreciated by children than the science of mathematics. Once children have learned to enjoy the beauty of something as a whole structure, they can then, perhaps years later, learn to analyze the structure in a scientific way. The child's way of looking at new things is one of wonder and enjoyment; it is only we sophisticated adults that tend to analyze all the beauty out of things."[17]

Clues: Ideas That Serve as Organizing Agents

A necessary component for pattern search that reveals structure is the juxtaposition of material which, by its very nature, invites its discovery. Such presentation can serve to provide a number of clues as it elicits comparison. The teacher who has grasped the inherent structure and the ideas involved in a particular field knows the clues that lead to the discovery of differences and similarities. Thus the teacher who has grasped the pattern of the generalized number system recognizes the principle of recurrence of numerals in any such system and the utility of zero. He presents the decimal system juxtaposed with other number systems so that youngsters may grasp the pattern. When asked to compare these with the Roman number system, children discover the *variety* of pattern conceived by man. They note the value of zero, the wonder of that simple symbol that has enabled man to come so far in his development. They recognize the role of positional notation in any number system, and they come to appreciate the structure of their own number system. Juxtaposition such as this enables a child to identify his own system by a process of differentiation.

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[15] *Ibid.*, p. 9.

[16] Marshall McLuhan, *op. cit.*, p. 63.

[17] Z. P. Dienes. *Building Up Mathematics*. London: Hutchison Press, 1960.

The same method of comparison can also operate successfully in the social sciences. It would seem that, inherent in Taba's recommendation for comparative education,[18] the juxtaposition of materials again plays a most significant role in the discovery of patterns. As children in a fifth grade class literarily explored the world of another people (*Thirty-One Brothers and Sisters* and *Seven Grandmothers*[19]), they identified with Nomusa, a girl in a Zulu chief's family, and her siblings. They discovered a pattern in family roles and relationships. While people are all different, essential human patterns emerge in their process of juxtaposing another culture with their own. In exploring the world, one discovers oneself!

This is the essence of the three-dimensional programing we need to do as teachers if we would reasonably guarantee personal involvement in learning. It is quite different from the linear programing of the teaching machine. Such juxtaposition of content provides children with focus, as a function of depth of field, which so many of our children need in this time of blurred images. This kind of focus contributes to the development of ability to differentiate. Essential patterns emerge, yet the child is not limited only to patterns already discovered. There are times, too, when children make discoveries that contribute to a teacher's insight and that operate to improve his future teaching. Feedback of this kind is available only to "teachers-in-the-round."

A group of fifth graders studying Africa was reading myths, folktales and animal stories. In a discussion about these without teacher planning or suggestion, Janie observed: "Some of these are just like our Br'er Rabbit stories. How come?" Janie's discovery of pattern led to finding connections between the African culture and our own. Evidently the idea of searching for patterns serves to stimulate thinking about things discovered in the past as well. These same children, in connection with acting out and then discussing the role of an African tribal chief, were impressed with the people of the tribe and the responsibilities they expected of their leaders. They recalled that, in their study of American Indians two years before, these people also had such expectations. The train of thought set in motion by cultural juxtaposition raised many significant questions about elected leaders in their own culture. As a consequence, there was a grappling with more profound concepts-in-formation about democracy. This continuous, open-ended search for patterns to discover meaning calls for a teacher's grasp of structural knowledge and a sensitivity to pupils' patterns of thought.

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[18] Hilda Taba. "Education for Independent Valuing." *New Insights and the Curriculum.* Association for Supervision and Curriculum Development. 1963 Yearbook. Washington, D.C.: the Association, 1963. p. 221.

[19] Both volumes by: Reba Paeff Mirsky. Chicago: Follett Publishing Company.

During recent years, imaginative research into the cognitive life of children has indicated that there is individual patterning of thought.[20] As teachers, we need to become increasingly aware of children's differences, to respect these, and to make provision for differing cognitive styles. Children may be dealing with the same content, yet they use varying approaches to it and varying forms of organization of it. It teachers utilize the clue, search-for-the-learning-patterns, they should be able to garner information which will enable them to free children for further exploration of the world.

For instance, Susan, an exceptionally bright youngster, could not cope with mathematics at the beginning of the school year. She understood the most subtle relationships in other areas of living, recognizing patterns in studies of people and of the natural and physical environment. All this was evident from her contributions to class discussion and from her writing. Yet, in the realm of number, she was stymied. For her, number just made no sense—and Susan could not learn by rote! Unless she could see the pieces fit some pattern, memory failed her. There are some persons who would say, and did say, that this youngster need not be "good in everything," and that good old-fashioned drill would help to pull her through.

This attitude toward subject matter carries the seeds of future disaster. Because of it, potential may be destroyed before it is discovered. In Susan's case, further investigation disclosed that the youngster needed some clues to indicate how the stuff of mathematics held together, some sense of its structure. She had not been able to find out for herself; therefore her teacher needed to know the structure and how to present it. When Susan discovered the ideas which underlay and held the structural keys to our number system, a "now I see" look appeared on her face. When she was asked to use the ten symbols of our number system and to reflect on the ways in which she had used them, Susan discovered the principle of recurrence of numerals.

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[20] Z. P. Dienes. *Concept Formation and Personality.* Leicester: Leicester University Press, 1959.

J. Kagan and H. A. Moss. *The Psychological Significance of Styles of Conceptualization.* Unpublished manuscript, 1962.

A. Thomas, H. G. Birch, S. Chess, and L. C. Robbins. "Individuality in Responses of Children to Similar Environmental Situations." *Journal of Psychiatry* 117: 798-803; 1961.

The Annual Report of Center for Cognitive Studies. Cambridge: Harvard University, 1962, contains a description of ongoing work in perception and cognition.

She found out about positional notation and the role of zero. How beautifully consistent and simple are these ideas!

On understanding the consistent, orderly quality of our number system, Susan needed one further clue: *there are many ways to solve a problem*. Now she was freed; she could think! She could shape the quantitative content of her world because she grasped those ideas which serve as organizing agents. Once she was able to perceive these ideas, she could manipulate numbers with facility, with far more facility, in fact, than those still approaching arithmetic as operational steps rather than as a set of consistent ideas.

A primal test of this child's ability came the day she arrived at an incorrect answer to a complicated problem. When she was asked what she had been thinking to get that answer, she revealed a most fascinating approach to the problem. No other child, nor the teacher, nor the textbook author had thought to do the problem in quite this way. It was a longer, perhaps a more naive process, but it was a demonstration of true mathematical thinking. Her error lay not in her thinking but in the final step, at which Susan took *one*-fourth of a number instead of the required *three*-fourths! Susan is now a high school student who can think in mathematical terms. She is an example of a person whose pattern of thinking includes the ability to sense the structure of a particular group of ideas, before moving to utilize available facts; in a word, she is a "conceptualizer." All teachers have worked with similar children, who are sometimes least rewarded in schools because of their inability to regurgitate facts!

Steve, on the other hand, had scads of facts at his fingertips, especially facts of history. He had cluttered his mind, bit by bit, with many blocks of subject matter strewn in debris-like helter-skelter, each on another. The form of his content was merely a listing of names, dates, events; this, for him, was history. He could not pull out the facts he knew when his group discussed a pervasive social problem of our time, desegregation. As the group investigated how a situation like that in Little Rock could occur in our country, Steve contributed nothing. He knew the "facts" of history, but his facts hid reality. He could collect facts, but he could not order these except in mere chronological sequence. For him, history was no more than this. Steve might be described as a high-memory learner, a piecemeal operator. All teachers know such children, for whom involvement with the world can be severely limited, even when, like Steve, they are highly intelligent. Yet teachers reward these children in much of the testing done in school. For Steve and children like him, the function of memory is mere reproduction rather than vital reconstruction.[21]

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[21] Sir Frederick C. Bartlett. *Remembering*. London: Cambridge University Press. 1933.

History could be different for Steve. With a teacher's help, he could learn to capitalize on his strength of memory. He could be encouraged to search his storehouse of historical data to build a *reconstruction* of that past, an accounting of events which seem to hold together. He needs to discover that it is in some pattern that we find meaning for events. A few clue questions could indicate the possibilities in seeking relationships. Who are the people most directly affected? When did they first come to America? Under what conditions? Pertinent questions could serve as threads to lead Steve along in his search. He has the material; now he must give it meaningful dynamic form. On gradually getting the idea that relationships can exist and are there for the creating, he could be freer to develop his own thoughts, his own response to time past and present.

Susan and Steve have different cognitive styles. Each demonstrates areas of strength and weakness. Susan inclines toward forming data so that pattern emerges, but a gap exists for her: she cannot store data unless it fits some pattern immediately. Steve is able to store data piecemeal, but he has difficulty in relating and interrelating the stored material. A teacher must be sensitive to the differences in cognitive patterning. To release children for increased participation in life, teachers need to search for patterns of learning as they exist and then to shape their teaching strategies accordingly.

Proficiency in organizing intake data, as one explores the world, demands that one use a wide range of clues. A vital clue for personal involvement is this: *shift your vantage point for viewing*. Special action is called for. To obtain a three-dimensional picture of the world, one must view objects from different angles. When one looks at the front of a building, he has a flat, two-dimensional view. A fuller comprehension of "building" can come to him only when he shifts his viewing point.

A fascinating book for young children, well worth adult reading, is *It Looks Like This.*[22] This book tells the story of four mice—High Mouse, Side Mouse, Front Mouse, and Back Mouse (so named because they live in those parts of the barn), each of whom perceives a cow, a horse, and a pig differently. Each is convinced that the other is wrong until a cat arrives. In frantic haste to escape, the mice run and hide together. Now they discover that each is right, for they all see the cat from the same angle. Each time the enemy turns, the mice see her—front view, side view, back view. Would that human beings might absorb the lesson from this story early in life! How much more receptive we would be toward others; how much more willing to stay with the stuff of the world, to explore it from many angles! One viewing and labeling deprives us of any reasonable encounter with reality.[23] To know, in a personal sense, demands multi-viewing.

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[22] Irma E. Webber. New York: William R. Scott, Inc., 1958.

This clue operates at different levels. It is not only a hint for action, but it can also be a clue to the discovery of relevant data. Each discipline is essentially another way of viewing the world. In effect, each discipline is also a different way of responding to the world. Artist, scientist (social or physical), mathematician: each responds to the world of people and the natural, physical world quite differently. By virtue of these differences in what the individual sees and seeks, different content is garnered. There is an aesthetic component in each body of content: an ordering, with its unity expressed; a harmonizing of discovered relationships. To obtain any reasonably composite picture of the world, one must shift his vantage point for viewing, as man must have done since time immemorial. Depending on what one wants to know, as he interacts with his environment, he will shift his vantage point. Consequently, teachers must help children to an awareness of this indispensible clue. Mere telling will not suffice. Teachers must devise situations in which youngsters can cognize the basic utility of the clue.

One such fascinating opportunity has been provided by an imaginative physicist, Robert Karplus,[24] who is experimenting with fundamental scientific ideas in forms for children to explore. He has two observers, Mr. O and Mr. O'. Mr. O stands in a toy truck alongside a wooden block. Mr. O' is outside the truck. The truck is rolled across the floor, after which the children are asked whether the block is moving. This seeming visual absurdity leads to the sudden discovery of the valuable idea that it depends on where you (Mr. O or Mr. O') are standing: your vantage point for viewing! Shades of relativity! What a wonderfully fruitful discovery that can be applied to all aspects of living!

Teachers can provide innumerable opportunities for pupils to make this discovery again and again in all stages of their development if they recognize the potential energy in this most vital idea. The idea may serve to release children in several ways. The vast knowledge which man has accrued enables him to approach and respond to our world in different ways, and should free us and our children to respond in our own individual ways. This essential part of our nature, individual difference, we have yet to take fully into account. If a composite picture of our world is to be gained from our different viewings, then each of us has a point of view to contribute, as did Dr. Webber's mice. Self-confidence in one's own point of view is essential for individualized learning. We can gain additional ideas from this notion. It takes many more than one point of view to develop a composite picture. Thus, points of view must be shared, and from such sharing will come an education of our perceptions. The expression, "Look at it from my viewpoint," now has real meaning. If, as Arthur Combs says, "seeing is behaving," then how valuable this clue may be!

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[23] Ernest Schachtel. *Metamorphosis.* New York: Basic Books, Inc., 1959. Note particularly the chapter on "The Development of Focal Attention and the Emergence of Reality."

[24] Dr. Robert Karplus has been involved in an experimental program in the teaching of science at the University of California, Berkeley, California. He is at present at the University of Maryland.

Noting differences of approach as one shares one's perception with others can be releasing even in the field of mathematics. Add this column of figures:

9
8
7
6

Have you learned to work down to add; up to check? Most people have. This is one way of adding, a way designed to establish a feeling of security that there is *a* way. Yet how many *other* ways are there to add this column? Some work has now been done with groups of children and teachers in helping them vary their methods of addition. In a group of teachers-to-be, one of the members suddenly gasped, "I always thought I was sloppy at addition!" She had used combinations of numbers, but she felt guilty about her approach. How many of us freeze to *one* way as *the way?* A part of reaching out for other "learnings" comes from a sharing of perceptions. "I never thought of that,' denotes awareness of another vantage point for viewing. Points of view are the bricks which build the house of thought with the mortar of imagination. There are many implications inherent in this idea (e.g., the treatment of controversial issues in the classroom), but lack of space necessitates that the reader find his own.

To this point, we have discussed clues which are primarily concerned with the ways in which learners absorb the sensuous stuff of the world; the ways in which they may become more fully involved in the handling of data; and their ways of shaping the content of their world. We have been concerned with clues which should reasonably guarantee a measure of freedom: to sense, to respond, to select, to relate, to organize, to interpret in ways that will show us a learner's own rhythm—his patterns of thoughts, feelings and actions. In attempting to analyze the kinds of clues which operate to increase personal involvement in living, we need yet another category of ideas which promote identity. These are ideas that add an affective component which ties us to other people, times and places; contribute to the development of a sense of belonging; provide a sense of the ongoingness of human endeavor and a sense of resilience in the face of difficulties. They strike a responsive chord in all mankind, contributing to the shaping of content in both our public and our private domains.

When one surveys the stuff of our world today, he needs to remember that each way of viewing, each discipline, has a history. This is a clue. Men have thought about the stuff of their world in the past, are thinking about it in the present, and will continue to do so in the future. Learners are fascinated with this idea. Wonder grows as one stops to think about the time when he was not. Kindergarten youngsters have a look of wonder on their faces as they are told a story of the ways man counted before ever having such tools as numerals. Later, this story comes suddenly to memory, helping a youngster cognize that counting is essentially matching; and later, that "matching" is termed by our mathematicians one-to-one correspondence.

A group of second graders, struggling to develop their skills for recognizing the printed word, were enthralled by an exploration of the era before man had a spoken language. Their own difficulties with communication and their ingenuity in overcoming them established a tie with the mainstream of mankind. These were flesh and blood difficulties. They *felt* them. Spoken and written words take on cogent meaning through such an experience, and language is no longer taken for granted.

A group of eighth graders, assuming too much, were floored by a second grader's question. They had gathered a good bit of information about American electoral processes. Just before Election Day, they were invited to tell the second grade about what they had found. Then a second grader said, "That voting idea—that's a good one. Who ever thought it up first?" The eighth graders went running to their teacher because they did not know the answer. A second grader had sent his seniors for further basic inquiry. An idea had been planted and thoughts were now invested with a new vitality. If learners are given opportunities to discover and explore new and emerging ideas, they may find that they, too, can contribute to ideation. Newton once said creators of ideas stand on the shoulders of those who have preceded them.

There is a living, dynamic, propelling quality in man's creations, revealed through history. This fact was indicated in negative fashion by a seventh grade group which had been very active in investigating aspects of the physical world. When they were asked which branch of science each of them might be interested in pursuing if they were to become scientists, their unanimous opinion was as follows: whatever the branch it must in some way deal with outer space. Asked why they had chosen this special focus, they replied: "Well, it's new. We don't know very much about it. *Maybe we can discover something nobody else ever has.* In most of the other stuff like chemistry and biology, everything has been discovered." There is an urgent message for us in these statements. Children *want to identify* with the mainstream of mankind—to make *their* contributions.

Ideas Invite Involvement

An historical search may, in a general sense, establish this identity with the mainstream of mankind. Yet it also operates to establish identity in another more particular sense: the identification of self with time past as one seeks rootedness in time present. This was revealed by Linda and Laura, each of whom responded quite differently to the data collected during an historical search for those multiple events which led to our current desegregation problems. Linda wrote her book report after reading everything she could find about the Negro people:

> *North Star Shining*[*] was a book of famous Negroes and how they lived. It also told about the slaves coming from Africa and praying to God for freedom. Yet, it was sad treating my people so badly. So sad that you would cry. Some slaves got jobs and became famous. If it had not been for Negroes, the South would have been very poor.
>
> In spite of troubles, Booker T. Washington became famous in education. Marian Anderson became one of our greatest singers. George Washington Carver became a great scientist. I enjoyed *North Star Shining* and will remember it for a long time.

We can infer from what we know of Linda that she was seeking sustenance from a sense of rootedness. If her people could overcome past difficulties, then she might, too. The ability to overcome difficulties contributes to resilience and maturity in growing. History gives us evidence of this fact. The struggle to overcome difficulties and the struggle for freedom seem universal battles that individuals have fought throughout ages. Commitment and responsibility develop from this personal identification, as Linda found by rooting herself in her people through "remembrance of things past."

The same focal problem may elicit quite different responses and series of connections. Laura's story told of a crucial experience.

> When I was going on the bus to Louisiana with my mother, the bus stopped in Tennessee for all the people to have their supper. I didn't notice at the time, because I had never thought of it, but the colored people had to eat in a separate room than the rest of the people.
>
> When you walked into the dining rooms, one door going into a different room said "Colored" and another door said "White" going into another room. My mother and I ate and then we decided to get a postcard to send to Daddy. We went into the waiting room. They had souvenirs, postcards and little glass animals. I told mother that I wanted to get a little glass horse and a postcard for Daddy. Mommy said she would like to send Daddy a postcard also.
>
> They had separate waiting rooms too. But I don't see why, because what difference does it make? All people are the same!

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[*] Hildegarde Hoyt Swift. New York: William Morrow and Company. 1947.

Outside of the building were drinking fountains and there were different drinking fountains too.

After we got to Louisiana we met an aunt there and her little girl. We rode the city bus home. The colored people had to sit in the back of the bus. I don't know why though. I had never thought of it before, but when we started talking about segregation, it just came back to me.

Laura was questioning. Suddenly she became aware of something which she had never before thought to question. How will Laura answer her own questions? This we do not know. However, here was a type of response, personal questioning, which makes possible some movement toward assuming responsibility.[24] Imbuing oneself with ideas which can make a difference is an important part of living.

The sense of rootedness inherent in history is something we all need to sustain us. The human urge to belong transcends any confines of family, ethnic, racial, peer or national group. It is a feeling of fixity in a firmament of time which evokes some cosmic sense of responsibility so necessary in today's, as in yesterday's and tomorrow's, world. Groups of adolescents, visiting with old people at a Golden Age center, had been given a direct glimpse of the near past through those who were living when "old New York" was somewhat younger. The young shared with the old and each contributed to the other. How seldom we establish such rapport with another generation! Yet, there are always other generations available to us.

A group of student teachers in the social studies was asked to visit such a center. Initially, the group expressed great discomfort at the idea. What would younger people talk about with the older? Would not this be a somewhat painful experience? With reluctance, the group went—and evidently found something its members will long remember. Conversation came more easily than they had expected. The old-timers, ages 65 through 90, were happy to have guests. The members of the younger generation watched; then found themselves listening more than talking. With what were they impressed? Unlike the children who came away with some sense of the past, the adults came away with some sense of the future! Back in class, before any discussion, there was quiet contemplation; then, the flood of responses:

"There is so much these old-timers can do."

"Did you see the head Mr. A. was sculpting? He's over 80."

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[24] Dwayne Huebner, Professor of Education, Teachers College, Columbia University, touches on the theme of responsibility in his chapter, "New Modes of Man's Relationship to Man," in Association for Supervision and Curriculum Development, *op. cit.* During a recent conversation, he juxtaposed on a piece of paper the words "response ability" and "responsibility."

"It is as though they have just begun to live. Mrs. G. never painted before. She worked in a factory until three years ago."

"You can discover things about yourself you never knew."

"If old age can be like this, I'm not afraid of it any more. Back home, our old people just wait to die. We don't even want to think about getting old. Why can't we have a center like that."

A near-past generation served as a bridge to the past for youngsters and a bridge to the future for adults, evoking personal responses from each. In all ways, our historical view of human responses to all aspects of our world—scientific, mathematical, artistic or whatever—may contribute to some sense of identity or rootedness. And it is this feeling of belonging to the world that leads to development of a sense of responsibility and commitment.

Another universal idea contributing to identification with others in both time and place is this: man, throughout the ages, has expressed himself with similar media—architecture, sculpture, painting, dance, music, drama, literature. Yet, while the media have remained, their *forms* have changed. Even a cursory survey of changes in form contributes to instilling wonder. Seventh graders involved with the Far East suddenly were struck by wonder as a knowing teacher[27] opened the field of Oriental literature for their exploration. As they read Chinese and Japanese poetry in translation, they noted particularly the use of things of nature as symbols for universal ideas such as freedom and peace. Then, having found these, they sought the poetry of their own people, only to discover that the same human pattern emerged here, too. How different the forms, yet the ideas evoke universal response!

Another teacher,[28] believing that ideas invite involvement, worked with a class of third graders, studying Japan. (Note that they were studying Japan, not *about* Japan.) The children read Haiku poetry and then attempted to write some of their own. They had grasped the Haiku idea for creating a laconic imagery, though the exotic peculiarity of its meter escaped them:

Children are in houses
Everything is quiet.

Back come
Hundreds of
Wings from the south.

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[27] Morris Salz teaches at the Little Red Schoolhouse in New York City.

[28] Elaine Flory Fisher, a student teacher at the time, is now an art teacher in Lexington, Massachusetts.

In the woods
Deer look for food
And rabbits hop around.

The children imitated the Japanese style, but the content was their own.

To follow through, this young teacher-to-be provided the children with an opportunity to respond to their world as would a Japanese artist. The brushes, the paper, the ink were all available. Three ideas became the children's action foci: negative space, harmony, and spontaneity. The teacher gave no definitions for these words, though they symbolized important ideas.

To enable her eight-year-olds to grasp the idea of negative space, the teacher had the youngsters contort their bodies, and then asked what portions of their bodies occupied space. How would they describe the space that was unoccupied? It was "empty." Very quickly they grasped the idea that there is a relationship between space filled and space empty. So it is for the Japanese artist who is extremely conscious of this relationship. When the teacher asked Jimmy what harmony was, he said, "That's in music when you have different people singing different parts—and it sounds nice."

"Yes," said the teacher, " we have harmony in music. If that's harmony in music, what do you suppose an artist means when he talks about harmony in a picture?"

"Oh, that must be when you use different colors and they look good together," answered Ellen.

Spontaneity was an idea the pupils could not define from their experience with language, so the teacher told them about it. Then they painted beautiful scrolls on rice paper, but more than this, they had planted within them a seed of an idea—the idea that there was a way of life different from their own.

The ways of the Japanese seemed difficult to understand because the children had to give much thought to them before taking action. The children heard and used the word "contemplation" for the first time. Once more, they experienced the need to think before taking action when they attempted to write their names in Japanese ideographs. As they prepared to copy the symbols for their own names which had been prepared beforehand by a Japanese woman, Jimmy said, "Oooo, I'm nervous. I'm gonna goof."

Mrs. Fisher reassured him by demonstrating how the Japanese woman held her wrist from beneath to guide her hand. Jimmy promptly grasped his wrist from the topside and proceeded to make his lines. Thus, the children established a tie with persons of another culture and obtained a glimmer of what it means to be different but still the same.

Symbols: Media for Conscious Shaping of Content

The preceding description of a teacher at work with ideas that invite involvement has within it another clue. The way in which Mrs. Fisher elicited definitions from her children indicates an approach to language in which youngsters have an opportunity to make words their own. Before one can become fully involved with his world beyond primary, sensory experience, he must "own" words. Language is man's creation, but he uses many symbol systems. In fact, each discipline has a symbol system of its own. There is a language of words, of mathematics, of music, of art, of geography. . . .[29] Without such symbol systems, we would be unable to communicate or record our experiences, and without communication and recording we could not develop our thoughts beyond the sensory-motor stage. Only through symbols are we able to grasp and structure any reality, to give some form to our ideas.

> A word does not refer to a single object but to a group or to a class of objects. Each word is therefore already a generalization. Generalization is a verbal act of thought and reflects reality in quite another way than sensation and perception reflect it.[30]

"Owning" words, then, becomes a more complicated matter than repeating some mere object label sounded by an adult. The world of experience must be greatly simplified and generalized before it can be translated into symbols.[31] It would seem, therefore, that our task is far more complicated than we had supposed. If we want children to achieve personal meaning as they move out to explore their world, they must be able to utilize tools of language for more than mere basic conversational communication. They must use language as a tool for thought. To own words requires a *multiplicity of experiences* to establish a tie between them and their referents. Only in this way may children and adults grasp the meanings, the concepts, which are involved. However, language may limit perception if one has only one word to go with one referent, or vice versa. Stereotypes may and do emerge when language is limited. Language actually offers a variety of ways of referring to things. It is *multiplicity of expression* which children must be helped to discover to free them for ever more meaningful exploration. If we urge children to use a dictionary or if we tell them the meanings of words before they have made an effort to generalize from their experiences, we deprive them of signal opportunities to make words their own, to shape the meanings of words from their experiences.

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[29] Language, here, refers to the many symbolic systems created by man rather than to the word as defined by linguistic specialists, who refer to the spoken word when they use the word "language."

[30] L. S. Vygotsky, *op. cit.*, p. 5.

[31] *Ibid.*, p. 5.

Mrs. Fisher invited her youngsters to *create definitions* out of their experience, and they did this with great success. As children grow, they may derive their own definitions—if we give them some clues to the structure of their language. Yet, for the most part, we say to them, "Use the dictionary!" Of course, the dictionary may well be used to check one's own definitions. In this way, it is possible to discover that one knows more than one believes he does, and the experience is decidedly satisfying. However, there are so many everyday words which have different meanings when they are used in the languages of different disciplines that one may not grasp the ideas they convey until one becomes acquainted with these languages. A group of children and, in fact, a group of teachers, thought that they did not know the meaning of "rational number." Their first reaction was to give up and consult the dictionary. When they were asked what "rational" means in everyday language, they gave reasonable definitions. Then, with another clue (to look for the word root), both the children and the teachers found that they *could* define the word. By active participation-in-search, an individual makes *his* that result which constitutes a discovery. As White says:

> Effectance motivation must be conceived to involve satisfaction—a feeling of efficacy—in transactions in which behavior has an exploratory, varying experimental character and produces changes in the stimulus field. Having this character, the behavior leads the organism to find out how the environment can be changed and what consequences flow from these changes.[*]

We have heard much about the importance of, and modes for, motivating children to learn. Mainly, psychologists and educators have investigated the emotional, social and physical developments of the child to get at those factors which seem to have embolic tendencies for his intellectual development. These categories having been analyzed separately, in the main, intellectual development has suffered as a consequence. We are only now beginning to realize the dynamic relationship among the developments, each patterning being highly unique and individual. Also, we are beginning to accept curiosity as inherent in every human being. If we do so, we must capitalize upon ways for freeing curiosity so that we may open possibilities for all children to engage in wider and profounder exploration.

As educators who tend to focus on needs, drives and habits, we have too often omitted the ways in which ideas operate to affect the very personality of an individual. We have long emphasized ways in which individuals' perceptions influence ideas in their perceptual fields. However, we have yet to become fully aware of those ways in which an idea itself can

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[*] R. W. White. "Motivation Reconsidered: The Concept of Competence." *Psychological Review* 66:329; 1959.

and does act to open individuals' perceptual fields. Actually,

> . . . an idea contains potential energy . . . it is the conscious form taken by our feelings and impulses; . . . it contains within itself a dynamic power to move individuals.[*]

This chapter has been an attempt to clarify the ways in which cogent ideas, developed by men exploring their world, may be utilized as clues for helping children become more fully involved with exploring their world. The stuff of the disciplines *is* the stuff of our world. As we hold fast to this idea, we are caused to rethink all types of curricular opportunities which we offer children. *With our eyes focused upon our children exploring the world,* we should examine with care the structures of all disciplines to discover those ideas which may serve as clues for opening new possibilities for discovering and developing the potential of individual learners.

[*] Charles A. Beard. Introduction to J. B. Bury. *The Idea of Progress.* New York: Dover Publications, 1955. p. ix and x.

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4 / Fostering Individualization in the Classroom

The Yearbook Committee in Cooperation with Laura Zirbes*

IN THE preceding chapter, an examination was made of the uses of subject matter in releasing human potential in classroom and school. In the present chapter, we highlight the interactive process by which human being affects human being in releasing potential. When teacher and pupils interact in the classroom, the teacher plays a predominant and significant role. Therefore we shall give major attention in this chapter to what the teacher does to help release human potential through arranging and encouraging desirable interaction.

First, however, we feel it necessary to reaffirm our faith in human potential as we have defined it heretofore. Each person yearns for a sense of human dignity and self-respect, and each strives to establish meaningful ties with the natural and physical world and with the world of people, *i.e.*, with peers, with teachers, and with all other persons who are part of his world.

We are concerned with those processes of interaction that communicate to learners the fact that teachers *care*. Furthermore, we are interested in those ideas that help to prevent the alienation of children from the school community, because we recognize that alienation leads to lack of commitment and to lack of responsibility, both of which are vital necessities for discovery and development of human potential. In the following discussion, we offer not a guaranteed prescription for curing alienation, but rather some ideas that we believe may serve as significant guidelines, ideas that operate across ages and stages of human development.

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* Members of the Yearbook Committee with responsibility for this chapter have included Mable O. Melby, who organized and wrote most of the chapter content; Frances Minor, who suggested guidelines to interaction; Louise Abernethy and Richard L. Matteson, who provided editorial suggestions and illustrations. Laura Zirbes supplied most of the illustrative material, a small portion of it from her previous writings and the remainder from recent observation. In addition, she proposed several of the guidelines.

The Teacher's Role

At the outset, the teacher should think about his role and come to recognize what is of significance in the dynamic interplay of humankind as each human being explores the world of people. All that we know about the direction and force of human growth, all that we know of the natural and physical world of which we are a part, and all that we know of our cultural context come together to result in a pattern of behavior which is highly specific for any one individual. Therein lie our essential differences. Even as we recognize these differences, the universals which are our similarities emerge as well.

As the teacher meets with his group of pupils on the first day of any school year, he confronts a mass of faces. There is a sameness about them all, but only for a brief period of time. Gradually, individual faces emerge to be matched with names, with specific ideas expressed, with personality revealed. The amorphous mass takes shape as the teacher differentiates one person from another. Only when he knows each member as a person does he come to know the true nature of his group. Only then can he operate to free the potential energy of the individuals within the group.

What does the teacher do as he views his group? He takes five important actions: (a) He becomes alert to significant clues; (b) he responds to these clues; (c) he is sensitive to time and timing; (d) he diagnoses; and (e) he encourages interaction that is continuous and self-perpetuating. Each of the five actions is described in the following pages.

The Teacher Is Alert to Clues

To guide his initial action, the teacher begins a search for clues. Sensitive teachers learn to "tune in" on all kinds of wavelengths and on all types of communication. Recent work in human communication indicates that there is more than one communication mode that needs to be considered, and the current realization that nonverbal communication can net human beings valuable data is especially vital to educators. The specific sensitivity which teachers need is a disciplined sensitivity which reflects an understanding of the dynamics of human growth, and which is characterized by clarity of perception and ability so to organize the data perceived that essential patterns of behavior are revealed.

Children, like adults, communicate in several basic ways. In observing these ways, teachers can draw valid inferences as long as they view the learner in his total patterning, for only then can the inferences have meaning and justification.

1. There is physiological communication, involving physical demeanor. A pupil's position may reveal how he feels about himself. For instance, he may communicate, by the way he sits, how he is relating to an ongoing activity. A facial expression at a particular time and in a particular context may tell a sensitive teacher a great deal. A change of color, the quivering of the corners of the mouth, the clenching of a hand, the raising or lowering of head or eyes: all these physiological clues may reveal a learner's problems or feelings.

2. There is communication through action or the absence of action. Experienced teachers are familiar with children who move in to tackle a job with alacrity, and with children who are hesitant and tentative in whatever they do. Action or the absence of it provides clues as to what the teacher should do with individual pupils and with groups of pupils in specific situations.

3. There is, of course, verbal communication. By means of it, the teacher obtains most of his data, or at least most of the data on which he usually relies.

Consider the child who, in situation after situation, expresses himself as not desiring what he really wants because he fears that he will be unsuccessful. He says he does not wish to participate in a school play. However, the teacher, knowing the child in his particular patterning, insists that he come to the auditorium at least to watch the rehearsals. As the child watches, he enters the activity despite himself, does creditably as an actor, and discovers an unrevealed aspect of his potential.

When a child expresses fear or reservation, the pitch and quality of his voice may reveal more than the words he utters. An increase in volume or a rise in pitch may indicate rising emotion though the words are calm. A decrease in volume or the absence of the usual inflection may indicate apathy, nervousness or fear.

Raising one's voice at the end of the sentence turns a statement into a question and may be the only way by which the learner can reveal his uncertainty or need for help. For instance, Douglas gained little from his reading: his word recognition was high, but his comprehension was poor. Searching for the reason, his teacher noted that though Douglas read well orally, he read several statements on each page as if they were questions. When he discussed the punctuation marks with his teacher, Douglas showed understanding of punctuation, yet the habit of raising his voice continued. The teacher then began to talk with him about each sentence in which this happened. She discovered that Douglas was able to recognize many words and was competent in working out the sounds of many others, but because of an extremely limited vocabulary, he did not know the meanings of the words he read fluently. He had been telling his teachers this for several years by reading as questions all sentences that held no meaning for him, but previous teachers had missed the clue.

The teacher needs to assess what children are telling him through their speech against what they are telling him through other modes of communication. Actions often are more eloquent than words. Accompanying bodily movements and facial expressions may be more revealing than actual speech content. While some children learn to cover up their true feelings through guarded speech, a similar veiling of true feelings through guarded gestures, for example, is less likely.

4. There is multimodal communication. Much of the time, the teacher is sensitive to a combination of all three modes of communication, *i.e.*, the clue that is given through physical expression is repeated or strengthened through a type of action and/or through verbal expression. In the following account, the teacher uses a combination of communication modes to acquire the knowledge and information needed to "round out" her portrait of the child.

> After my conference with Betty's mother, I observed the child more closely, particularly during the more informal periods of the day. During informal dismissals, it was natural for the children to walk and talk with someone. As many times as I observed this coming and going, I never saw Betty walking with anyone. She had a habit of getting up close to the wall and edging along the wall, an action which in part retarded her departure, but in part kept her removed from the other children. I also observed that as the children assembled in the morning and as they prepared to go home, she rarely, if ever, talked to anyone, and the children rarely, if ever, talked to her. She seemed to be an ignored child. No wonder she had remarked to her mother that she hated outdoor-play periods!
>
> I observed Betty during work periods. In general she worked diligently and quietly; I'm sure I never heard her voice "out of turn." She did not seem to mind speaking in front of the group; she expressed herself well for an eight-year-old. It seemed to be the conversational settings from which she withdrew.
>
> One day Betty asked to be excused from gym because we were practicing basketball skills and "the kids laugh at me because I don't throw the ball very well." It was true that Betty was much more adept at folk dancing than she was at ball skills.
>
> Results of our sociometric testing reinforced the idea that perhaps Betty was more ignored than rejected. This was an important clue in thinking about the type of interaction that would help Betty find her more positive self through more satisfying relations with her peers.

The Teacher Responds to the Clues

The teacher who is able to assimilate a wealth of information about an individual by listening, by observing, by questioning, is guided in his curricular planning by viewing individuals not as they should be but as they really are. The teacher who is able to respond in accordance with the information received is guided in his response by viewing curricular content, in part, as an aid to freeing the individual to discover his true self, his potential.

The teacher who assumed an investigative role in the foregoing illustration plays a helping role in the following account as the narrative continues:

> In pondering this problem, it seemed to me that it was necessary to help Betty find a way of becoming a part of her group, working through both the child and the group. It seemed important for the group to do something for Betty, and to have Betty do something for herself through doing something for the group. I responded through attempting to facilitate both processes.
>
> The first direct opportunity to have the group contribute to the child's need came just before Christmas vacation. Betty was absent with scarletina and would not be back until after the holidays. The children "came through" with several suggestions of things we could do for Betty, including writing her letters, sending cards, and sending her the school newspaper. In their letters, several children told about the goldfish that had died and about the new ones we would get after vacation, "and you'll be back to see them." Several told about the Christmas and Chanukkah cards we were making: "We're going to send you one." Several expressed concern over her illness: "We hope you'll be well soon." We mailed one large envelope of letters each day for three days. On the fourth day, we mailed a Chanukkah card from the group and on the fifth day we sent the school newspaper. The children took turns bringing the envelopes, getting the stamps, and mailing the letters.
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> During the morning meeting on the first day of Betty's return, she thanked the children for the letters: "I liked them very much, and I read them many times." Betty's mother told me later that the letters had become worn with handling.
>
> Toward the spring of the year I used the following planned opportunity to have Betty make a positive contribution to a group activity. The children enjoyed listening to her read; she read with both ease and effectiveness. How could I facilitate the utilization of this talent in making a group contribution? To make a long story short, we developed and presented the story of *The Ugly Duckling* through drama, music, literature, and art. All the children participated. The children talented in art made large chalk drawings to accompany the story. Singing ability was discovered for solo, small group, and chorus parts. Betty and Gloria were narrators who "carried" the story element. Gloria was one of the room favorites, and had been chosen by Betty on all three sociograms

taken in the fall of the year. The two girls worked together in planning their contribution.

The Ugly Duckling was shared with other third grade children in the building. Both the participants and the audiences enjoyed the activity; however, I feel that the value derived was the result of the process of having each child participate in his best way. While many children were afforded this opportunity, this retrospective look is focused on Betty, who was delighted with both the development and the presentation of the story.

Late in April, Betty and her family moved. I was sorry that it was necessary for Betty to leave at that time. I felt that a beginning had been made in helping her work out more comfortable group relations. The children were beginning to notice her more. I recall two girls talking to her one day before outdoor-play period. I used the opportunity to remark, "Are you three girls planning your game for today?" Elaine and Carolyn looked quite surprised, as though they hadn't really thought about it up to that point. I recall Tommy, in particular, who on occasion would make it a point to talk to Betty. Any social conversation was a step forward. It was not the talk itself that was as important as the "someone-wants-to-talk-to-me" feeling.

Perhaps the best evaluative statement I can make concerning Betty's progress over this short period of time is that she seemed to become more comfortable in her quietness as she began to feel that she had a part in the group. Having just finished playing a vital role in a group activity through co-working with a child whom she admired must have sent her on her way with a better feeling about her role in the old school and with more confidence in adjusting to the new.

The teacher in this situation remained close to Betty's problem throughout a period of time The teacher accepted the problem as a challenge which merited her own careful and continuing response. In the same manner, the high school teacher who discovers a troubled pupil in one of his classes arranges to talk with the pupil during a free period or after school, and refers the pupil to an empathetic guidance counselor, but continues to keep in touch with the pupil and his problem. Adequate and continuing response by the teacher is required if appropriate interaction is to be achieved. Also, the teacher who would respond effectively must recognize the significance of time and timing.

The Teacher Is Sensitive to Time and Timing

"Tuning in" requires time: time to listen, time to respond. For each human being, there is an ebb and flow of thought, of feeling, and of action as he interacts with his environment. He needs time if he is to become involved in this interaction. The need for adequate time is expressed by Combs and Snygg:

The discovery of personal meaning is a process which seems to proceed best in an unhurried, unharried atmosphere. We have seen that perceiving takes time and good teachers are keenly aware of this fact. They know it is possible that the pressure of speed may destroy the process of exploration entirely. The organization and reorganization of perceptions in the phenomenal field is an active process best accomplished through some form of interaction of individuals with problems. The value of a learning situation can be completely lost by such an emphasis upon speed that the learner is reduced to passivity while subject matter is poured forth at a rate he is unable to comprehend. Almost any student has at one time or another been exposed to the teacher in such desperate haste to "cover the subject" that he succeeded in burying it forever.[1]

There is another aspect of time with which we are more familiar as teachers, though we may often fail to utilize it fully: the "right time." This is the aspect of time that makes for economy in learning. We have all experienced the effect of correct timing upon ourselves as well as upon our pupils.

One dimension of correct timing appears in the individual's unique rhythm of growth, for all growth is characterized by uneven development. Within the same individual, there are some areas in which growth is rapid, others in which growth is slower. It is this unevenness that makes timing a most important factor in the teaching-learning process. How often have we had the experience of "teaching" some item and finding that it has not been learned? The point at which something "clicks" for a youngster or a group of youngsters is the result of a number of factors. As the teacher takes in the clues youngsters give and adjusts timing accordingly, pupils may be released to move on in their exploration of the world.

Another dimension of right timing develops according to interest, experience, concern, and personal need. Perhaps the right time to explore an idea is when interest and enthusiasm are high, when a strong, personal motive exists, or when the solution of a personal problem suggests the learnings that are needed, rather than when predetermined curriculum sets the requirement.

Inflexibility of scheduling prevents facilitation of both of the above identified requirements, enough time and the right time. Tight scheduling in 30-minute compartments does not lend itself to listening, to responding, to sensing the rhythm of development within a group or within individuals, to discovering potential. Note the advantages of flexible scheduling that are suggested by the following example:

> My fifth graders were "selling" favorite books through an oral sharing of highlights. The time for terminating the period was near at hand when Billy tugged at my sleeve and with an air of expectancy pleaded his case, "Say, Miss

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[1] Arthur W. Combs and Donald Snygg. *Individual Behavior*. New York: Harper & Row, Publishers, Inc., 1959. p. 394.

Smith, do you care if I try something? I've got a keen idea." Billy's keen idea was to engage his recently finished papier maché figure in conversation about the book he was sharing with the group. As he proceeded with his plan, something of an unusual flair for improvisation, for the dramatic touch, for reaching an audience, for making a point through the medium of dialogue shone through for a child who was otherwise experiencing several academic struggles. The keen idea was picked up by others, some of whom were anxious to carry on book-talk with their papier maché figures then and there, others of whom preferred more "thinking through" time.

The termination of the period was delayed to allow time for this idea to be tried out by other children, by enough others to assure the success of the suggestion. That is, the termination of the period was delayed to allow time for the message concerning Billy's newly discovered talent to be adequately received by members of his peer group.

What would have happened to the extension of ideas for future book-talk, to the stimulation of making alternate plans, to the encouragement of trying out suggestions, to the self-realization of Billy, if the teacher had answered, "Sorry, Billy, time is up—perhaps some other time?" What other advantages of flexibility of scheduling are erased through the passing of classes as mandated by the bell, through compartmentalized organization, through departmentalization?

The Teacher Diagnoses

Sooner or later, the teacher should diagnose the strengths and weaknesses, the advantages and needs of individual learners. Initially, he diagnoses tentatively and informally. As the evidence on which he may base more careful diagnoses continues to accumulate, he becomes comparable with the internist in medicine, who gains thorough familiarity with the dynamics of the human body so that he may diagnose and prescribe with confidence. The skilled teacher diagnoses situations in his classroom with confidence, though he may say he teaches "intuitively," as if he were dealing with elements beyond his control. Could it be that the "intuition" upon which he bases his actions comes from the same thorough familiarity with learners and the dynamics of learning situations that the internist has, correspondingly, in his field? Is it possible that the skilled teacher is able to receive clues from his perceptual field and to respond to them immediately? Consider the following instance:

During a block of time reserved weekly for independent writing, several children had written original stories. Others had written letters, and Neil had started a brief thank-you note which he intended to mail on his way home. His teacher, noting that he seemed to be in trouble, asked whether she could help. When Neil moved over in his seat, she decided that he expected her to sit down and read what he had written. The conversation between teacher and pupil began as follows:

Neil: You see, I always know what I want to write, but I can't always spell all the words, so I think up another way of saying things before I go on writing. Then I don't have to erase or copy.

Teacher (smiling): Oh, I see! Do you suppose you could get set by thinking about the words you can't spell, and letting me help you with them before you begin to write?

Neil: That's a good idea for *next* time, but what about *this* time? (Showing the teacher his paper) Does this look O.K.?

Teacher: I don't see any misspelled words, and your paper is neat.

Neil: Yes, but I wanted to say "friend," and I wasn't sure whether it was *ie* or *ei,* so I wrote "pal." Then I wanted to say "received," but I wasn't sure whether it was *ei* or *ie,* so I wrote "got." Please don't ask me to use the dictionary. It takes too long to look up both ways of spelling a word when all you want to know is which way is right.

The teacher's further conversation with the pupil revealed that his errors were with the middle of words, never with their beginnings or their endings. She suspected that Neil had a visual difficulty, so she arranged for his referral to an oculist. Meanwhile, however, she administered a series of pre- and post-tests; asked Neil to list the words he was sure he could not spell; and helped Neil expand his word list (a) by writing related forms of words he was sure of, and (b) by having courage to write the words he intended to write. She knew that whatever the oculist's report revealed, Neil would need confidence in his ability to spell. Later, she might find it necessary to prescribe remedial procedures. For the present, she made three statements designed to build Neil's confidence:

"I'm sure you will make progress, and I am ready to help you make it."

"I'm going to help you stop confusing yourself and giving up."

"I'm asking you to stop calling yourself a 'bum speller.' "

The teacher had begun the process of diagnosis which must continue as her interaction with Neil continued.

In making diagnoses, the teacher needs to observe individual pupils with care. He should watch for their strengths: *e.g.*, their ability to see relationships, to perform complex tasks, to sense unusual situations. He should also note pupils' inhibitions to learning: *e.g.*, apathy, anxiety, confusion, preoccupation.

Individual problems encountered by learners often block interaction, and so prevent release of potential:

With *Dominick* it was his name and the fact that he was called a "Polack" by the boys.

With *Ellen* it was the move from the farm to the big city.

With *Eileen* it was the new baby.

With *Derrick* it was worry about his father, who had been away on duty overseas for almost a year.

With *Calvin* it was his own long and serious illness and hospitalization, together with the shock of finding that he had been demoted during his absence.

With *Pauline* it was shame and anxiety about the criminal behavior of a relative with whom she had been identified by name in lurid newspaper accounts.

With *Janet* it was squeaky-soled shoes and ill-fitting hand-me-down dresses which made her so self-conscious that she came to school early, walking on the sides of her feet, as though it were a very painful process, and refused to rise from her seat until after the class had dispersed.

With *Mose* it was a cultural and racial bias, which he felt in all his contacts.

With *Emily* it was her mother's recent death, which she refused to accept.

Often the teacher should consider the effects of his own behavior in encouraging or blocking interaction. He may do this, in part, by considering whether he strives for openness and rapport, leaves time and opportunity for learners to respond, provides challenging content, and stimulates learners to commitment and action. In addition to considering his own interaction with pupils, the teacher should pay attention to the ways in which the pupils interact with each other.

Careful diagnosis can aid interaction that is continuous and self-perpetuating.

The Teacher Encourages Continuous and Self-Perpetuating Interaction

Interaction characterized by revelation of self on the part of the learner and by an arranging of experiences based on revelation on the teacher's part should become continuous and self-perpetuating. The desired interaction continues unceasingly as response becomes revelation, and revelation leads to action. Thus, as the learner responds to suggestions for action, he further reveals himself; and as the teacher receives additional information, he further modifies and/or extends the original arrangements.

The functional approach to diagnosis and teaching of writing skills is an example of continuous and self-perpetuating interaction. Writing takes place as a part of everyday living in classrooms, according to pupils' communication needs and interests and as a means of self-expression. The teacher provides instruction to assist the individual learner in communicating his thoughts for those purposes that are personally important to him.

When the pupil writes, the teacher becomes aware of both communication purposes and communication problems. Thus, the teacher examines the pupil's writing to determine his developmental level and the cause of the communication breakdown at his level. The teacher also looks at the pupil to decide how the uncovered needs should be dealt with. If a need is to be considered seriously, a teaching-learning goal is established and the teaching-learning process ensues. Analysis of subsequent purposes and subsequent performances reveals the degree of effectiveness of past emphases and possible emergence of a new teaching-learning focus. The teacher's understanding of the writer's needs makes clear the appropriateness or inappropriateness of using the new focus at this time. Future analyses of purposes, performances, and writers continue to determine the foci of attention which are appropriate for this writer in solving his communication problems as he interacts with his world of people and ideas.

Providing Opportunities for Individual Learners To Reveal Themselves

Essential to the process of sensing and responding to the verbal and nonverbal clues provided by pupils is provision of opportunities for pupils to reveal themselves. For revelation to be complete, teachers, too, must be willing to reveal themselves as persons. As long as the label "teacher" defines mere status, rather than person, pupils will respond to the teacher's role and position, and they will not reveal themselves as individuals. The classroom must provide for the involvement of all its participants if teachers wish to gather the data relevant to their task of releasing human potential.

Three children from different schools who were visiting a relative were told a joke that delighted them. When their laughter had subsided, the boy in the group chuckled, "My teacher will sure laugh at that!" The second child, too, indicated that she was anticipating the fun of sharing the joke with her teacher and class. Noticing that the third child made no such comment, an adult asked if she intended to tell her teacher the joke. "Oh, no," was the reply, "I wouldn't tell Mrs. F. She doesn't like jokes; teachers don't like funny things." In this teacher's classroom, children obviously would not reveal their sense of fun, and it is doubtful whether they would reveal any personal feelings to a teacher who is perceived as less than human.

Teachers must create an atmosphere in which children feel accepted. No one should be foolish enough to reveal his problems or confusion in a situation in which he might be blamed for having them. Many a perplexed pupil remains quiet when the teacher asks, "Is there anyone who does not understand?" Pupils soon learn that along with additional explanation may come criticism of their failure to grasp the point earlier. No one cares to reveal an aspiration or a hope in a classroom in which it might be ridiculed, as when a teacher says, "You want to be a writer, and you can't punctuate a simple sentence correctly!"

Furthermore, pupils are reluctant to reveal new learnings or experiences to a teacher who requires that they be organized in dull, routine form. One often hears, "Don't tell the teacher that I read that book or she'll make me write a book report." Or, as one pupil who deliberately concealed his ability said, "If they think you don't know nothing, you don't have to do nothing."

Under what conditions, then, do learners tend to reveal themselves? We believe they do so when they know that they are valued, when provision is made for them to respond uniquely, when exploration and discovery are prized, and when emphasis is placed on big ideas.

Valuing the Individual

Pupils are more likely to reveal themselves in an environment that places value on the dignity and worth of the individual. As Madge Rudd has said:

> No one can develop or express his greatest possibilities in a threatening situation. For idea to grow upon idea, an individual must be made to feel that his thinking is worthy and appreciated. There must be an air of acceptance in the group. At times, ideas may not seem to be related, but life itself is an experimental laboratory where one expresses according to his particular talents. Where ideas can be freely expressed, the way is open for help and guidance. If they are smothered and the individual does not feel free to express his thoughts as they come to him, we may be guilty of standing in the way of progress because we use our authority to close the door of thought.[9]

So much is done to downgrade and even to degrade individual pupils that valuing the individual should assume especially high priority in the schools.

Providing for Uniqueness of Response

Pupils are also more likely to reveal themselves within curricular experiences that make it possible for their procedures, their "take-hold" points, their perceptions, their thinking levels, and their ways of organizing to be operative for them in eliciting their unique responses. Through the teacher's providing a variety of ways in which pupils may sense, respond, participate, organize and interpret, each is freed to operate in ways most effective for him as he interacts with his environment.

Responding in a unique manner is more possible within curricular opportunities that are characterized by openness rather than by closure.

[9] Madge Rudd. "Dare to Stretch." *Delta Kappa Gamma Bulletin* 29:49-50; 1962.

Few classroom activities are completely open-ended or completely definitive; learning experiences represent degrees of openness. However, an activity that represents the extreme in openness is one that prescribes in definitive terms neither the scope, the outcome, the finish-point, nor the approach. Within an open-ended activity, a pupil may more appropriately say:

This	rather than	*This*
I've gone as far as I need to, as far as I can, or as far as I choose to go at this time.		I've finished.
I had to change some of my plans.		I did exactly what you said.
I hope it's going to work, to do the job.		I hope it is right.
I'm not quite satisfied.		I hope you like it.

Zirbes presents contrasts in the degree of openness of curricular experiences through the following two examples from elementary schools:

> A group of young children manifests *spontaneity* and *individuality* when it is not regimented or repressed by imposed restraints and required conformity. Provided with challenging opportunities to explore and discover the possibilities of a variety of play materials, these children have a chance to move about, to handle things, to act on impulse, to react to each other, and to the situation. They manifest freedom to communicate, freedom to be spontaneously playful, as well as freedom to initiate purposeful endeavor. There is no sign of pressures which block or inhibit action or of pressures which are coercive. Warmly permissive adult guidance encourages and paces developmental activity and fosters a sense of satisfaction in whole-hearted involvement. There is room for choice. The atmosphere is unhurried and free from anxiety.
>
> In sharp contrast with this situation another group of children of the same age range is provided with uniform, stereotyped seat-work, and explicit oral directions to be followed in unvarying compliance. These children sit in rather passive, compliant preoccupation with this task, without noting much else, and without having anything to do with each other. The situation is clearly one in which an efficient type of mass management has everything in control to an extent which discourages deviation from directions. Any thought of individual initiative would seem to be too precarious to occur to children. This accounts for anxiously submissive adaptation, and also for lack of zest. The room is very quiet and there is nothing dynamic or challenging to spur children to go beyond what they are required to do, without choice or variation or adjustment of expectations in terms of evident differences in maturity or capacity. There is no evidence of intrinsic-satisfaction—no enthusiasm.[*]

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[*] From pages 21-22, *Spurs to Creative Teaching* by Laura Zirbes. Copyright 1959 by G. P. Putnam's Sons. Reprinted by permission of the publishers.

After commenting that "the blighting conditions of uncreative education are not limited to elementary levels," Zirbes gives the following example from a secondary school:

> Consider the plight of the adolescent who noted a serious discrepancy in a historical article in a current *Life* magazine one evening after completing his homework. When he brought the matter to the attention of his father, he was advised to consult a standard reference book to check on it. Having established his point in this way, the boy was advised by his father to take the magazine to school and share his discovery with his teacher and classmates. At this he demurred with the comment that there was no time for anything but lessons, and no likelihood of anything but a "brush-off" from his teacher. Of course all teachers are not like that, but there *are* uncreative teachers who do not let anything current or life-related break in on the routines of formal instruction, even when its bearings could enliven learning or enrich meanings.[4]

Teaching which requires learners to be submissive and conforming reduces learning to compliance and stifles initiative. When teachers expect strict conformity and compliance, they limit learners' roles, stereotyping their reactions and devitalizing their efforts to learn.

In addition to providing openness within activities, teachers should provide opportunity for a variety of activities which satisfy a variety of interests and challenge a variety of talents. It is possible that through each different type of activity the teacher is able to reach different learners. By reaching a learner, the teacher means that he has established a mutual communication wavelength with an individual because he has tapped something that is real, important, interesting, and personally significant for the pupil.

Encouraging Exploration and Discovery

Exploration and discovery invite involvement. Involvement, in turn, invites questioning, and the spirit of inquiry invites and compels search. The questions raised, however, must be *real questions* whether they are asked by teacher or pupil. Actually, questions are more than stimuli for limited responses: they may serve to focus attention, invite recall of past experiences relevant to the exploration at hand, or serve as clues on the path of discovery. It is through insightful questioning that the teacher may release the learner. It is through such questioning that the teacher may help the pupil "open up" to the world; may sensitize him to those aspects of his environment which have not been brought into the focus of his perceptual field.

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[4] *Ibid*, p. 22-23.

The reader should note the source of questioning, the establishment of tentative hypotheses concerning cause and effect, and the tendency to test tentative conclusions in the following example:

> Pete was looking for information about Recife, Brazil. He came to me and asked about the location of the city. I suggested that he could find out easily by checking the large wall map. As I pulled the map down, he said, "Here it is—see?" He studied the map for a few minutes and said, "Say, Mrs. A., what is this?" He pointed to a place inland and northwest of Rio where it said "Proposed New Capital Site," and remarked excitedly, "What's the idea? Are they going to move the capital? Rio de Janerio is the capital, isn't it? Sure it is, see, you can tell because it is underlined. . . . I haven't heard anything about that. Do you know about it?"
>
> The encyclopedia was considered as a source of information, but was rejected on the basis of its copyright date. This only served to whet Pete's curiosity, "I don't get it. Why would they move the capital from Rio? Look, this is way out in the middle of nowhere. There aren't any towns around. Why do you suppose they would do it? I just can't understand."
>
> Pete grabbed John by the arm and said, "Hey look . . . etc.," repeating many of the same questions. He then went over to Don's desk and said, "Hey, Don, come here. Look, I came over to the map to find out about Recife and I found this!" He and Don discussed various possible reasons for a change and then went back and got Rick and showed him.
>
> Finally Pete came back to me and said, "Where do you think we could find out?" I asked him if he had ever noticed the section of the *Gazette* (our local newspaper) that answered questions, and what he thought of this as a possibility. He thought it was a good idea, but he assumed that I would write the letter. In response to my suggestion that he might write the letter, he thought for a moment and said, "Okay, but what would I say?" He agreed that this would depend upon what he wanted to find out, and that he would ask for answers to the questions that were puzzling him. "You know I came here to find out about Recife and look what's happened!" he said.

As a pupil's perceptual field is extended through inquiry, the teacher provides opportunities for individuals to share their perceptions with others in the group.

This action may serve several purposes. In the process of such sharing, pupils and teacher reveal themselves more fully as people interacting with their world. Sharing of perceptions very often leads to shifting of perceptions. (The reader should think of instances in which he has said to himself, "I never thought of that," or "I never looked at it that way.") In the sharing of perceptions, a teacher comes to discover the gaps in an individual's experience and development. These discoveries constitute relevant, significant data which are necessary for revealing human potential.

When the teacher utilizes questions and observations that seek response in the form of opinions, feelings, perceptual levels, and experiences, pupils' responses are always appropriate even though they may be inadequate. In such questioning and observing, errors and mistakes are viewed as incomplete learnings rather than as shortcomings or occasions for humiliation, reprimands, or low marks. Incomplete learning becomes the clue for the teaching-learning focus, for clarification of perceptions. In contrast, pupils learn to cover up their inadequacies if their shortcomings are frowned upon, if the right to be wrong does not prevail.

A positive attitude toward the place of error is essential in a classroom that invites learning through exploration and discovery. As the idea is expressed by Combs and Snygg:

> Since exploration necessarily involves trial, practice, seeking, striving, and pushing into the new and unknown, it is bound to result in frequent error. Therefore, a learning situation which regards mistakes as affronts against God and man is hardly likely to encourage the exploration of meaning. Personal meaning can only be discovered in settings wherein one has the opportunity, indeed even the right, to make mistakes. An educational setting which cannot tolerate or permit mistakes imposes severe limits upon the freedom with which students can explore their own perceptions.

Focusing on Big Ideas

Someone has said that good teaching consists, in part, of helping learners distinguish between the federal and the municipal, the big ideas and the minor ones. Focusing on big ideas does not rule out the need for data, for relatively inconsequential knowledge. The gathering of data, however, becomes a means toward the larger objectives of seeing relationships, forming generalizations, and sensing patterns. The pupils in the following example apparently achieved this kind of focus:

> What started as an interest in Thomas Edison and his inventions spread to an interest in other inventors and other inventions. By this time, the children had gone to the library and had returned with a number of reference books and charts which led to the formation of purposes and to fruitful use of the reference books. There were enough leads and resources to provide opportunities for choice and the challenge of inquiry.
>
> After considerable discussion of the mathematical problems involved, a time-line was developed on which the names of inventors and inventions were entered as the study progressed. The possibility of sharing information with another group brought about a classification of inventions and the assumption of responsibility by groups of pupils for an identified category. Thus the category of inventions which speeded up transportation was handled by one group; those which had speeded up communication by another; etc.

[8] Combs and Snygg, *op. cit.*, p. 396.

A discussion of possible current and future inventions brought out many interesting ideas, such as, "Who knows! Some of us might get to be great inventors some day." . . . "I'm not an inventor, but I do have hunches and ideas." Looking at the present in terms of the past and future led to an organization of our recent studies within the following four headings:

The Story of Human Advance
The Human Story
Man Through the Ages
History in the Making.

Such focusing on big ideas facilitated a shift away from thinking of history as "that red book" and toward thinking of history as a story that is still in the making. "We are all part of the unfinished human story, and some of you will certainly contribute to human advance in one way or another." This was one of the big ideas that I hoped the children would derive from the study.

In this example, there was a long continuity of productive interaction. The children started with backgrounds of direct social involvement in their own lives, and with challenges to self-extension through inquiry. They accepted developmental tasks and commitments to roles in a group endeavor. Not only did they *confront* their world, but they came to perceive it more maturely and to identify with the age-long processes of human advance as *history*. They came to see the relationships between invention and social change, between texts and reference books, between fields of *study*, as well as fields of *work*. They learned by finding out what they wanted to know, and by organizing what they found into sequences and categories for later use and reference. In all this, the teacher's interaction with the pupils helped in individualizing learnings and also in fostering self-discovery and self-realization.

Insights and meanings are deepened and matured . . .

. . . when the teacher's focus is on a significant idea so that learners have a core around which to respond; around which to cluster discrete items of experience and of information gathered to date

. . . when the teacher indicates that there is a need to seek relationships so that learners can achieve some measure of understanding of where the pieces of data may possibly fit

. . . when the teacher gives clues, or varied threads, to guide learners in ordering and organizing their thinking

. . . when the teacher indicates that the pictures pupils are patterning, *i.e.*, their concepts-in-formation, can change. This is especially important if the teacher wishes to avoid blocking learning in the future.

Providing for Self-Discovery

It is not enough for learners to reveal themselves in interaction with their teachers and peers. Their own self-discovery is extremely important to the release of their potential. In achieving self-discovery, learners face four major challenges: the challenges of choice, expectations, peer interaction, and personal meaning. We examine each of these challenges in the following pages.

The Challenge of Choice

The classroom must become a place for trying out ideas, for testing skills, for using knowledges in a variety of ways. These are the means by which learners discover their strengths and their limitations at any particular point of development, the means by which they learn to use their strengths to meet limitations. In informative opportunities to sense and feel and find out, learners come to know and become more knowing, better disposed to discriminate and decide on chances of satisfaction and courses of action. These informative opportunities can be provided in the challenge of making choices. The learner chooses between and among possible alternatives; he becomes aware of himself as an active agent in an interactive process. In making choices under the guidance of a mature person, one may learn to assume responsibility for that which one chooses. Furthermore, in making choices one learns to commit oneself to an idea, to an ideal that transcends the self.

Making appropriate choices involves learning difficult and complex skills. One must move gradually from making a simple choice between two possible alternatives to consideration of an increasingly greater complexity of alternatives. No matter what the ages of the choice-makers, the extent of opportunity that individuals or groups have had in making choices must be taken into account. The challenge of choice can stimulate growth or it can prove to be overwhelming, depending on the nature of the challenge offered at a particular time to a particular individual or group. The insightful teacher makes decisions about the nature of choices that are appropriate for a group and for individuals, following studied observation and assessment. The insightful teacher realizes, on the other hand, the importance of providing starting points for choice-making for even the most immature groups, else how will these learners grow in ability to exercise judgment? Of course, neither the teacher nor his pupils should confuse freedom with license. Surely, there is *a range of choice* that increases with experience and with growing awareness of what is appropriate and inappropriate behavior in any given situation.

The challenge of choice must be offered with faith in the ability of children and youth to make decisions. To do this requires a thorough understanding of human development. Also, it requires preplanning and insight into the existing level of learners' judgmental maturity so that an offer of choice, once made, need not be retracted. There are times when choices are offered in the classroom and, even as pupils move in to choose, the teacher will make a decision concerning the inappropriateness of the choice and the need for interference. Such interference says many things to young people. Sometimes it says that we are frauds in our dealings with them; that we really have little faith in their ability to choose; that we have little faith in their ability to learn from their own mistakes. Challenge of choice must be offered within a freedom to make mistakes. In the words of the ASCD 1962 Yearbook, "The right to make choices, which is central to becoming, implies also the right to make mistakes. Learning conditions which do not permit mistakes limit the child's freedom and his willingness to make his own choices." [6]

The Challenge of Expectations

In education, expectations are usually considered to be those behaviors which teachers expect of children. Teachers look for certain behaviors which are determined by our cultural values. However, nowhere in the dictionary definition of the term "expectations" are behaviors limited to culturally-based ones. Other behaviors are determined by the nature of human beings. More important is the quality of behavior which is expected. Teachers have had the experience of eliciting the best from a pupil by expecting the best he has had to give. Their very expectation has been releasing. Expecting the worst nets teachers just that. So, often teachers alienate pupils from the school community by the worst of expectations. Expectations are communicated and internalized by pupils, positively or negatively. As teachers perceive pupils, they contribute to pupils' perceptions of themselves.

Expectations should not be limited to teachers' expectations of learners. Expectations may well have to do with those behaviors which the individual anticipates for himself. If teachers can provide opportunities in the classroom in which pupils may discover for themselves the consequences of appropriate and inappropriate behavior, and thus learn to differentiate one kind of behavior from the other, pupils may develop a growing awareness of the self as an active agent. They then learn that their decisions and actions do make a difference. They discover, too, that not only can one make decisions, but that one can learn to make increasingly wise ones, for poor judgment and failure need not be repeated. Pupils learn to see themselves as able to become more competent people by learning to

[6] Association for Supervision and Curriculum Development. *Perceiving, Behaving, Becoming: A New Focus for Education.* 1962 Yearbook. Washington, D.C.: the Association, 1962. p. 238.

take more thought, to profit from error. The many variations of the alibi, "But I've always had that problem," are proof that far too many people have learned not to expect enough of themselves. The "But what can I do about it?" apathy which permeates large segments of our population indicates a defeatism due to lack of positive expectation.

Expectations can contribute both to willingness to accept greater responsibility and to a sense of belonging, and these two feelings are mutually reinforcing. By assuming responsibility for a given task, many pupils have found themselves committed beyond themselves to others. As identification with a group develops, many pupils have likewise found themselves more ready to move in and accept responsibility. For instance, a girl in kindergarten voluntarily jumped up to assume responsibility for collecting the scissors. Another child imitated her action, and for a moment it looked as if a quarrel would ensue. After a few seconds of wavering, the first girl picked up another box, gave it to the other child, and together they completed the task. Her first commitment, plus her identification with the group, led her to a higher level of integrative interaction.

As the teacher considers what it means to develop a sense of responsibility for the consequences of one's behavior, a number of questions arise regarding the concepts inherent in reward and punishment as these concepts affect behavior. How much, if any, information is derived about the nature of a particular behavior in the giving of an extrinsic reward or punishment? Someone other than the individual directly involved in the behavior considers this behavior good or bad. What other information is available? What does this information contribute to understanding the self as an agent in the transaction? Teachers should seek to answer these questions as they think about guidelines for classroom interaction.

Other questions may be asked about the teacher's own actions and what these actions communicate to his pupils. When one assigns "busywork," what expectations is he communicating? What attitudes toward work in general has a teacher the right to expect under such conditions? One's expectations may bear careful examination when he thinks about the clues he gives youngsters as he interacts with them throughout the school day.

The Challenge of Peer Interaction

The interaction to which we refer is by no means limited to that between teacher and pupil. Some of life's learnings are not only enhanced by but are dependent upon working with peers.

The value one places on learning through group situations, through peer interaction, depends upon his faith in propositions like those stated by Morgan when he suggests that (a) children probably learn more from each other than from adults; (b) children learn about themselves through interaction with others, including peers; (c) the self develops through this interaction; and (d) the quality of the resulting self depends upon the quality of the interaction.[7]

By whatever means or plan pupils are organized so that they may interact with each other, the teacher has an obligation to judge the nature and quality of the interaction that is occurring. Sometimes interaction can be wasteful of time or actually harmful. Sometimes new experiences and different personnel need to be introduced into a situation. The teacher needs to be sure that maximum opportunity is being offered learners to gain from interaction with each other.

The Challenge of Personal Meaning

Curricular experiences, whether constructive or destructive, are capable of having personal meaning for the learner. While we do not deny that threatening or temporarily damaging experiences sometimes result in learners' eventual good, we are interested in providing learners with experiences which are relevant to them in light of their purposes, need-gratification, background and interests.

We believe that the facilitators of interaction which we have discussed in this chapter tend to increase learners' opportunities for finding helpful meaning in their experiences. Helpful personal meaning increases involvement, which in turn increases potential for self-discovery. When helpful personal meaning is present, the reward for effort is satisfaction received through the activity itself, through its contribution-potential, through realization of personal purpose. The chief person to evaluate a performance is the performer himself, and the interaction that accompanies or follows the performance has as its reason for being the need to identify strengths, pinpoint difficulties and plan next steps.

Within the context of helpful personal meaning, the place of marks and grades should be reexamined. What reason do we offer for simply grading papers instead of giving information that will be encouraging and informative to the pupil? Within the same context, what reason do we offer for busywork, whether it appears as schoolwork or homework? What attitudes toward work in general have we the right to expect under conditions in which uninformative grading and busywork exist?

Challenges of choice, expectations, peer interaction, and personal meaning may operate simultaneously in curricular activities that represent the acme in opportunity for discovery and devolpment of human potential. Note the meshing of these challenges in the following account:

> Time for personal reading is an important consideration in our fourth

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[7] H. Gerthon Morgan. "How to Facilitate Learning." *NEA Journal*, National Education Association 49:55; 1960.

grade. Books are chosen from the neighborhood library, school library, and room collection on a self-selective basis. Book sharing for these children is not a reporting period, but a period in which books become more alive for the reader as well as for the possible prospective reader, a period in which creativity can be released and encouraged.

In order to give direction to the experience, criteria that would satisfy the purpose were suggested. In order to open various possibilities for adding interest to book talks, supporting media were listed as an aid to children in making their choices. In order to facilitate recording plans, a chart was provided with appropriate spaces for indicating the title, author, aids, and participants. Within this plan, children "sign up" when they are ready.

I made myself available to children who had reached decisions. The groups or individuals who were ready came to tell me of their plans while others proceeded to work out their ideas. One self-sufficient boy brought a box equipped with curtains, two boys asked for paper for a movie roll, two asked to use the tape recorder, and one group took the flannel board.

By way of an example of results, a group of four children made a story board presentation of *Bianco and the New World* using figures to depict character and scenery. We used a tape recorder to record the narration. In addition to the narrating, responsibilities included manipulating the figures to change the story board scenes and making the sound effects. The presentation was enjoyed by our own class and another fourth grade.

Worthy of special mention was the work done by two boys, one of whom had several problems, including the problem of learning to read. Stick puppets were used to carry on dialogue about *Big Jump*. It was especially gratifying to me to see Jim start something and carry it to completion in a reasonable length of time. To reinforce this success experience, I arranged for the two boys to "sell" the book to another fourth grade. As Jim returned to his own room he looked at me with a light in his eye and said,"You know, I never thought I could do it."

How many Jims are there who have discovered they could do something they never thought they could? How many Jims are there who were aided in discovery through the challenge of choice, the challenge of expectations, the challenge of peer interaction and/or the challenge of personal meaning?

As stated at the beginning of this chapter, success in achieving desirable interaction depends much upon the behavior of the teacher. A supervisor reports:

> A well-meaning experienced teacher used a tape recorder to help her hear herself teach. She recorded what she referred to as her planning period, and heard for the first time how directive and stereotyped her comments were. She found that she had used the expression "I want you to" forty times in fifteen minutes. She had vetoed all suggestions but her own. She had involved only about one-fourth of the children in the group discussion. She had been pleasantly

demanding, and the children had acquiesced. Furthermore, she had *lost* her group in *winning* her way. Her experience with the tape recorder sensitized her to behaviors that needed correcting if genuine, free interaction were to occur in her classroom. However, she found it necessary to participate in role-playing episodes before she sought concrete ways of altering her behavior.

Some teachers behave unknowingly to prevent the kind of interaction which we believe to be necessary in helping learners release their potential, but teachers may be helped to improve the quality of their interaction with learners.

The thesis of this chapter has been that the teacher acts to release pupils; to free them for increasingly active involvement in the world. In this involvement, the observant, insightful teacher discovers human potential and then provides opportunities for its development and release. Discovery is maximally possible within an environment that values the individual, within curricular experiences that provide for uniqueness of response, for exploration and discovery, for focusing on big ideas. Even as discovery is facilitated, development is enhanced as the learner seeks, questions, relates, organizes and reorganizes to integrate his experiences; to find himself in relation to the world of people and ideas in which he lives. Guidance to release potential is opposed to the idea of interference, to premature labeling, to lack of involvement, to lack of individualization.

Whatever guidelines for classroom interaction are developed, they must be checked against this fundamental concern for discovery, development and release of human potential. Whatever educational goals are sought, their realization becomes dependent upon a continuing and abiding faith in the inherent potentiality of all humankind.

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5/The Effect of Environment

Althea Beery

IN WHAT kind of setting will the individual be most likely to realize his full potential? What school environment will be conducive to "openness to experience" on the part of learners? What is the nature of the social setting in which the individual learner will be free to test his powers, offer tentative findings or conclusions, and be motivated to pursue new investigations? What resources are necessary or desirable to insure to the learner new vistas, new mastery, new avenues of growth? What will the school be like that best releases and develops the positive potential of the individual learner through appropriate content and experiences which have personal relevance for him?

This chapter is based on the premise that a wholesome and rich school environment makes the job of individualizing teaching easier. Some of the conditions within the school setting which promote development of the positive potential of each student have been expressed or implied in preceding chapters. Many facets of the structured environment which the school represents contribute to or impede the individualization of learning. These include space, time, facilities, materials, procedures, activities, classmates, and perceptive adults.

Criteria for a Setting Conducive to Personal Fulfillment of the Learner

The emphasis or importance of the individual criteria in the following list may vary with the age of the learner and with the particular task to be accomplished. However, the criteria pose guidelines that may aid the reader in thinking through the characteristics of a school environment which will help the pupil to discover and develop his potentialities as he relates curricular content to his personal needs.

The pupil has a teacher who is sensitive to his interests, his abilities and his aspirations.

He has a stable place in a cohesive classroom group with which he can interact.

He engages in learning in a place that is healthful, attractive, suitably equipped and appropriate to the individual and group enterprises to be undertaken.

He has at hand or within easy reach a wealth of diversified materials which lend themselves to a variety of approaches to learning and which, in accordance with his maturity, permit him to explore the "stuff of the world."

He has insightful guidance which gives him a sense of direction, yet allows him freedom to initiate and pursue personal inquiry.

The materials, the guidance and the atmosphere of the school are evaluated with regard to the contribution they make to the development of a realistic but wholesome self-concept on the part of the learner.

The situation permits him to take an active part in his own development by participating in the establishment of purposes, the selection of a mode of learning, and the responsibility of appraising his progress.

The school setting arouses enthusiasm and zest for learning by opening many possible avenues for exploration.

The discussion which follows is centered on the climate for learning, the physical environment, and learning resources as they affect the individualization of learning.

Climate for Learning

A well-designed school which has large, modern classrooms, the finest of equipment, and an abundance of materials will not of itself guarantee the optimum or even the minimum development of pupils. Before discussing an appropriate setting, it seems well to consider the intangible classroom atmosphere—the climate for learning. From the pupils' point of view, this climate includes attitudes toward each other, toward the teacher, and toward learning. Such a climate is made possible by a teacher who possesses both understanding and effective skills.

Establishing a Climate for Release of Potential

Attitudes may include both beliefs and values. They are crucial to the way the individual perceives himself, to his relation to others, and to learning situations. Four kinds of attitudes which markedly influence climate for learning are identified.

1. *Positive attitudes toward persons promote feelings of worth and status.* Faith in one's own potential is a prerequisite for receptiveness to the experiences which lead to learning. Perceptual psychologists remind us that the individual builds his concept of himself as a person of worth and dignity from the attitudes of those persons who are important to him.[1] When a child senses, on the part of teacher and classmates, an acceptance of himself as a worthy member of the group, he is freer to concentrate his full energies on learning.

Even though the teacher's attitude is a helping, positive one, difficulties arise if the child does not interpret his teacher's attitude in this way. Dick, a first grader, had simply stopped doing his assigned work. To the teacher's quiet inquiry about this lapse, Dick answered, "But you don't help me anymore."

The teacher acknowledged that she had given him a great deal of help at first, but that she believed he was able now to work independently. Assured of his teacher's continued interest in him as a learner, Dick handed in a completed paper the next day.

2. *Wholesome attitudes toward differences promote feelings of belonging and acceptance.* Overemphasis on conformity not only leads to mediocrity but tends to isolate the class member who differs in physical appearance, size, abilities or interests. On the other hand, development of the attitude that diversities enrich experience and make life more interesting enables every person to feel accepted by the group. When such attitudes prevail, each individual accepts and prizes his own uniqueness, thus strengthening his self-image while still maintaining group security.

Films, filmstrips, records and books help build respect for others. While showing the filmstrip, *The Boy Named Lazy Jack,* a first grade teacher made the remark that all people have backs. A pupil commented, "Everybody owns themselves."[2]

3. *Favorable attitudes toward learning enhance the role of the teacher and the role of the learner.* Children are naturally curious; they want to find out. We all know that routine assignments, penalties for errors, ridicule for mistakes, and lack of personal goals in learning may reduce

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[1] Association for Supervision and Curriculum Development. *Perceiving, Behaving, Becoming: A New Focus for Education.* 1962 Yearbook. Washington, D.C.: the Association, 1962. p. 53.

[2] Franklin P. Morley. "Creative Behavior in the Elementary School." Unpublished doctoral dissertation. New York: Teachers College, Columbia University, 1958. p. 125.

this zest for learning as children progress through school. Emphasis on the negative not only destroys incentive but also implies that learning is a closed enterprise, that avenues toward goals are prevalued and predetermined rather than being subject to varying conditions and perspectives. Yet this need not be so. A teacher who is open to new experiences himself, who prizes the personal commitments pupils make for inquiry, and who points up what they have learned and suggests additional avenues that might be pursued, builds in pupils a respect for learning.

Modern art came up for discussion in a sixth grade. The flow of the pupils' comments reflected attitudes in the making. "Looks like painters just slap paint around on canvas." "You have to have a name to understand them." "Each of us can see something different in the pictures." "Each interprets for himself." "Words mean different things to the same person at different times. The same with art." Apparent in these comments is the freedom of expression fostered by the climate of the classroom. Less apparent, but almost surely present, was a teacher who helped the pupils to think more deeply in evaluating something different.[3]

When learning is viewed as exciting and valuable, the role of the teacher varies with the situation. Sometimes the teacher simply gets out of the learner's way; at other times, the teacher may protect the rights of the pupil to take another line of inquiry. Comments such as, "I wonder why?" "I wonder what would happen if . . . ?" from pupils as well as from the teacher give evidence of a forward-looking or searching attitude toward learning. In such an atmosphere, pupils learn to think for themselves and to form their own opinions, yet they learn to support ideas and interpretations with facts. The climate is interpreted by the pupil on the basis of the teacher's behavior as well as his speech. Action is more impressive than words.

A simple example will illustrate this. Just as the children in one school were preparing an exhibit for National School Week, a fire in the supply closet destroyed all the art materials. Although some classes were dismayed and saw all hopes of a display vanishing, one teacher sent her pupils out of doors to find their own materials—"something to give color; something that might substitute for the lost ceramic clay; something that might help display our products."

After considerable fruitless wandering, some of the boys found clay of all kinds on an exposed bank. They whooped with the joy of discovery and dug out great gobs of it. Others stripped bark from dead trees to carry the clay.

While some of the baked clay objects crumbled, others came through in good shape. Clay coloring was used for paintings, and decorated holding trays were shaped from bark. The result was a group of proud children who had gained increased respect for materials and their ability to "make do."

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[3] *Ibid.*, p. 119.

4. *Receptive attitudes toward discovery promote enthusiasm for learning.* Here, the secret of commitment is involvement. When the learning situation is viewed as a child's encounter with reality to which he brings his past experiences and present insights—an encounter through which he hopes to gain control over knowledge by sensing the relationships of ideas and the underlying structure of a field—the learner is a central figure in the process. He learns to set goals for himself, tests his new learning in the light of previous knowledge, and is embarked on a voyage of discovery. This is exhilarating, and each new insight gives impetus for others. Psychologists affirm that casting the learner in this role not only makes learning more attractive but helps him see relationships better and aids retention.

For example, Gloria, a kindergarten child, described a rectangle as "tall sideways." In another kindergarten, Tony explained: "A square is the same long all ways, but a rectangle has two same shorts and two same longs, except when it is a square." The descriptions represent different levels of understanding, but in both cases the children experienced the joy of discovery. For them, these were among the first in a long series of observations and insights, enhanced by freedom to experiment both with materials and ideas.

One day a high school pupil showed a rock to his science teacher and inquired as to its composition. The teacher asked him to think of some ways by which he could find out for himself. With a thoughtful look, the youth proceeded to answer his own question.

The Teacher as a Catalyst

One of our grave educational problems in dealing with children from culturally deprived areas of the community is that many parents do not cherish the kinds of learning to which the school is committed, nor do they provide support for opportunities which give background for learning. This may be true sometimes for children from affluent homes as well. Some schools are working directly with parents to reach agreement as to what the school should teach and how parents can help. The fact remains that, as previous chapters have illustrated, the teacher is the key factor in the learning environment. Among the ways in which the teacher affects learning, three will be mentioned.

1. *The classroom atmosphere is a reflection of the teacher.* He is the most important influence. He sets the tone. The teacher fosters a learning atmosphere by the way he observes children at work, watching for clues that will give him insight into the needs of learners; by his guidance which supports and yet frees pupils to become active searchers for meanings; and by his own background of knowledge and respect for learning. As he welds a group into a working team, communicates his genuine interest in each pupil, and shows a friendly concern for the full development of each, he creates a climate for personal learning.

A bit of whetting of the appetite for the day's lesson always helps. This was the reasoning behind the action of one fifth grade teacher [4] whose class found a heterogeneous list of topics on the chalkboard one morning. "Does one of these topics interest you?" the teacher asked. "Do you know where they may be found?" . . . "No!" . . . "No!" "Right! In your arithmetic book. Well, let's go to work on the topic you choose. Work together if you wish." The children quickly became absorbed in the study tasks prescribed by the topics they had selected. Even a recess period did not dispel their interest, for upon their return to the classroom they continued their work without a word from the teacher. She had been equally absorbed, however, first in working with a small group that possessed a common need for her guidance and later with individuals who requested her assistance.

2. *In many ways the teacher builds respect for learning.* A sensitive teacher who is widely versed in knowledge, aware of what children and youth are like and how they learn, varies his role both with the group and with individuals as he establishes the climate that will be conducive to helping them uncover their abilities and set their sights toward higher yet realizable goals. No general rule of thumb can describe his procedures. He opens a closed door for one child, casually leaves a door ajar for another. He encourages children to try new ways to solve a problem, or to state a variant to a class problem which he wishes to pursue.

An eighth grade class in a junior high school in a deteriorating section of a large city was concerned about world problems and the threat of communism. The teacher had a knack of making history and world events come alive for his pupils. Because of interest kindled by the teacher, one boy bought his own paperback copy of *The Ugly American* [5] and reported on it. On his own, he read *The Rise and Fall of the Third Reich.*[6] The following year he joined the Ninth Grade Book Club and continued his serious reading. From time to time, he dropped in to discuss with his former teacher the ideas in books he had read and in movies he had seen, among them a film based on *The Ugly American* and *Fifty-five Days in Peking*. The teacher, a former serviceman, had helped the boy see the international problems of the United States more realistically.

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[4] *Ibid.*, p. 186.

[5] William J. Lederer and Eugene Burdick. New York: W. W. Norton & Co., 1958.

[6] William L. Shirer. New York: Simon & Schuster, Inc., 1960.

3. *The teacher helps each child to achieve new perceptions.* He realizes that if children are to uncover their full potential, they must be helped to see themselves honestly but acceptingly. Karen, a second grader bubbling over with ideas, did not always take time to put them down in good form. She was admonished one day by her teacher for not using her best handwriting. The next day she showed her paper with the comment, "It's better today. I like it even myself."

The alienated youth from an impoverished background too frequently sees himself as a failure and psychologically leaves the classroom. Success with learning activities that have relevance for him, together with evidences of the teacher's respect, can gradually change his image of himself. He needs also the support of his class group. Social interchange in the classroom offers the teacher an opportunity to help the pupil see his mirrored reflection in the attitudes and action of others, and to help him face the implications of this view of himself.

One of the barriers to new learnings is the accustomed way of dealing with facts and experiences. By his comments, questions and suggestions, the teacher helps learners take a fresh look at material and frees them to experiment with a new approach. He suggests resource materials, perhaps some pertinent reference, which will provide knowledge that is lacking.

The teacher gains rather than loses in importance as he operates in this way. His role is crucial in setting a climate for self-realization by pupils and in helping them see progress. To his general knowledge about children and youth and the way they learn, he constantly adds specific information about each individual whom he observes. He moves from the role of teller to the role of suggester, he becomes a provider of stimuli, a raiser of questions, a sage wise enough to step aside at times to allow the learner to find a way through the problem, but he remains always a support when the pupil has lost momentum.

An education journalist headed one of her newspaper columns, "High School Senior Makes English Sing." In it, she reported that Peter had received a citation from the National Council of Teachers of English for original composition, literary comprehension, and language knowledge. What the article failed to state was that behind the boy's achievement was a teacher who looked beyond a rather brusque exterior and recognized the ability of a lad with ideas and original ways of expressing them. This teacher arranged for his transfer to a more able class and, by personal counsel and encouragement, freed him to develop his talents.

The School Setting

A central task of the school is to help the child discover his own constructive potential and to create conditions through which this may be developed. Thus it becomes important to consider proper conditions in the school setting, involving both the physical and emotional environment.

While the following discussion is centered upon the classroom setting, any location in which the child pursues educational ends is, for that span of time, his classroom. The library, the laboratory, the gymnasium, the auditorium or the conference room may, in turn, become the learning center. In general, however, the term *classroom* implies a place in which the number of pupils is sufficiently limited so that members of the group may learn to know and interact with each other, and so that the teacher may know and interact with the pupils individually as well as collectively —in short, a home base for the learner.

Facilities and Furnishings

What kinds of classroom furniture and equipment are needed for releasing and nurturing the potential of each learner? Instead of an exhaustive list of specific items, criteria upon which to base choices of furnishings for a center for learning are given here:

1. *Facilities and furnishings must permit flexible use.* Often a pupil works alone. At such times he needs a working space where he is relatively free from distraction and interruption, where he can concentrate on the tasks before him, and where he may safely place work in progress for later completion. Individual storage is imperative for children and youth of all ages. Except for the youngest children whose individual interests are relatively fleeting, personal work stations are needed. To provide the varying amount of space needed to carry on different enterprises, work stations, at least for elementary school pupils, should probably be convertible for joint use. Furniture should permit ease of arrangement for the task at hand.

2. *Facilities and furnishings must encourage interaction.* To enable pupils to learn from each other and from the teacher, the setting should encourage individual conferences, partner enterprises, small-group undertakings, and opportunities for the class as a whole to plan together, hear reports, enjoy literature, listen to resource persons or to recordings, view

films or television, observe demonstrations, or undertake experiments. Isolated carrels or cubicles for study may have a place in the overall design of a school, especially for high school youth, but they do not substitute for learning situations where "give and take," face-to-face interaction is possible.

Proper facilities permit a variety of undertakings. A student observer of a ninth grade algebra class, at the suggestion of the mathematics teacher, met the special needs of four pupils who were far in advance of other members of the class. The observer came to the group each Friday for conference and discussion, prepared to adapt to individual needs the new mathematical concepts he was acquiring in his college work and to supply work sheets for independent use by pupils between visits.

3. *Facilities and furnishings must encourage and promote a variety of ways to learn.* Needed in the elementary school classroom are centers of interest, where related equipment and materials may be assembled in one spot, enabling children to engage in a variety of activities without interfering with pupils involved in other enterprises. Such facilities also encourage manipulation of and experimentation with materials in the process of learning. The development of the classroom setting in high schools should be in terms of the kinds of activities pursued. Many secondary school classrooms are being constructed with two attached rooms: one for conferences and small discussion groups; the other for housing a variety of learning aids and reference materials. Other classrooms are being built with movable partitions to adjust the size of the room to the learning situation.

At all educational levels, it is helpful to think of the classroom as a laboratory for learning. The interest centers described here relate, in the main, to an elementary school classroom where the group spends most of the day.

A science center may house models, materials and equipment; may display pupil collections; and may contain reference and illustrative material germane to current interests and investigations. With an appropriate working space close to a sink and with other needed facilities close at hand, the center is the hub of localized and organized activities that permit pupils to work as a scientist does: raising problems, collecting evidence, trying out procedures and testing hypotheses. A mobile science table facilitates individual enterprises. A well-equipped science area stimulates observation and experimentation.

To encourage experimentation and free expression in art and craft activities, a construction center makes crayons, paints, many kinds of paper, clay, cloth, and various discard materials easily accessible for use. This center should be adjacent to sink, to bulletin boards for display, to easels and other working surfaces, and to storage space for materials and work in progress.

In addition to a school library, every elementary school classroom needs a library nook; every secondary school classroom needs reference materials within easy access. Housed here are books and periodicals to invite the inquiring mind to find answers to questions or to explore additional interests: fiction, informational books; and general references such as dictionaries, atlases and encyclopedias. With a wide range both in level of difficulty and type of material, changed according to emerging interests, the book center makes accessible to pupils of varying ability sustenance for mental and emotional growth. Picture and clipping files may also be assembled here.

A listening and music center with piano, simple instruments, recordings and a record player equipped with earphones, radio, tape recorder, and also a television set may be so located that it promotes both individual and group listening and viewing.

On bulletin boards, chalkboards or peg boards there may be displayed materials for developing and clarifying concepts, for promoting new interests, or for sharing the results of individual or group enterprises. Ample storage for general supplies, for textual materials, and for equipment is assumed in a purposeful, dynamic environment for learning. Even where supplies may be meager, storage is needed for putting aside materials which have outlived their usefulness for this group and which no longer challenge pupil interest and abilities.

Space

Each of the centers described here needs adjacent space where activities can spread to floor, table or bulletin board and chalkboard, as the occasion demands. Space promotes privacy and permits joint endeavor without confusion. Freedom to move about depends upon room enough to do so without interfering with the activities of classmates. Space facilitates the personal conference of teacher-pupil and pupil-pupil. Obviously, the arrangement of the room and the organization of activities make possible the most effective use of available space.

It is one thing to make provision for a class to have a common experience or to indulge in identical practice. It is quite another to provide a setting in which individuals are encouraged to follow through with a variety of responses. The latter requires space for class planning meetings, for activity, and for protection of work-in-progress. Space is expensive, but if educators believe that pupils can reach their full potentialities only through personal organization of knowledge and experience as they interact with classmates and adults and explore materials and ideas, then high priority will be placed on space as a necessary prerequisite to such exploration and interaction. In the meantime, ingenious teachers in less than ideal situations make use of corridors, the outdoors, or even unused corners under stairways to permit children to use profitably every available space in the pursuit of individual and group enterprises.

Time and Timing

The time spent in school cannot be a formless continuum. Of necessity, certain school activities, such as lunch, physical activities, instrumental or speech classes, and special laboratory periods, must be scheduled. In these ways, classroom programs must be geared into the life of the school. Moreover, broad guidelines for class programing are desirable in that they help insure a proper balance among curricular offerings and some continuity in emphasis within separate disciplines. Especially for younger children, a good school day implies some rhythm of activity; vigorous activity alternated with relaxation; an accepted distribution of time that gives a general schedule for the day and yet is flexible enough to make room for emerging needs. A regular pattern of events saves energy and time by eliminating the need for continuous decisions about what should happen next.

Within this general framework, however, teacher and class provide for substantial blocks of time so that learning tasks are not continually interrupted, and so that an individual or a group has time to follow through with an alternate response relative to a topic or problem of particular interest. Time provisions are made either for concentrated effort on a single activity or for pursuit of a variety of related learnings. There are times, also, when an individual or a group should be freed from scheduled activities to engage in independent inquiry. Discovery is seldom compatible with rigid time limits.

Depending on the age and maturity of the learners, the teacher's guidance should result in pupils' assumption of increased responsibility for wise use of time and for choice and duration of learning tasks. The teacher, taking his cues from the behavior of pupils, decides whether to adjust the timing or to wait for pupils to sense the need for redirection and reapportionment of time. He is cognizant also of individual patterns of working, and he makes provision for learners who work better alone and at a slower pace as well as for those who profit from much time spent in group endeavors.

Resources for Learning

Paralleling the accelerated, explosive tempo of growth in new knowledge in our society, one can discern increased effectiveness in its dissemination. Frazier [7] has identified several dimensions of knowledge and has contrasted current learning opportunities in each with traditional approaches. Comparatively, there is an abundance of information. What is available is more concrete and accurate. With new mass media, the transmission is often immediate, in contrast to previous conditions when perhaps weeks or months elapsed between the time of an event or a discovery and general dissemination of news concerning it. Emerging developments today are reported by many sources. Formerly, knowledge was interpreted by relatively few individuals; now there is at times a bewildering number of interpretations. The pupil, exposed to this abundant flow of new ideas through radio, television and other mass media, must select, organize and interpret what he sees, hears and reads.

The out-of-school exposure of children and youth to the moving panorama of events, people and processes holds great promise for enrichment and extension of learning. It follows that educators should be knowledgable about current offerings in magazines, paperbacks, radio, through television and other instructional media, that they should be sensitive to the possibilities for the immediate use of such materials by pupils or for the preservation of current presentations for later use through recordings or through picture and clipping files.

The teacher needs an intimate knowledge of the pupil—his motivations, his past experiences and his present needs—as a guide in referring the individual to one rather than another lead for further exploration. Knowing what is available, the teacher selects those materials and offerings which promise greatest returns for the pupil time and effort involved. Selection is associated inevitably with the purposes and present enterprises of the individual or class group. A word of caution is needed lest this perusal and selection be too narrowly conceived. A variety of approaches to an idea serves to reinforce a concept and to deepen understanding. For example, a pictorial presentation in the mass media may put flesh on the bones of abstraction and generality which all too frequently characterize textual materials and their use in classrooms.

Ultimately, the pupil himself must become selective in choosing from the bombardment of imagery surrounding him. He must be helped in evaluating the usefulness of any given source of experience in the attainment of goals he has set for himself. Such ability comes from repeated opportunities, under guidance, to select and evaluate materials from the many resources available.

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[7] Alexander Frazier, in a television presentation for the Cincinnati Association for Childhood Education, January 31, 1963.

Many teachers are too inclined to fill the pupil's school day and after-school hours with definite assignments from limited sources. In such cases, the pupil has little time or incentive to sample the new, the exciting, the immediate; or even to pursue special interests. Both teachers and pupils need to be "open to experience" if learning is to be expanding in nature, so that pupils are encouraged to reach their full potentialities.

Types of Resources

There are many ways in which source materials for learning may be classified. One way to look at these is in terms of their relative concreteness. Resources range from direct experiences to the abstractness of verbal, symbolic materials. The members of the committee responsible for this volume believe that resources should be viewed in the light of their contribution to individualized learning.

In guiding the individual's "becoming," the teacher must be aware of the adequacy or lack of concrete, direct experiences the pupil has had in a given area and of his readiness to build generalizations and to think abstractly. As Frances Minor points out in Chapter Three, the teacher can often give the learner a clue which will illuminate the structure or larger design of a discipline. The measure of the difficulty of any particular source for learning is its distance from the pupil's experiences and its relation to his abilities, his attitudes and his goals.

For ease of discussion, resources are here broken down into the following overlapping categories:

Human resources; firsthand observation and experiences; exploratory and experimental material; materials and opportunities for self-expression; printed material; various audio-visual materials, and newer learning media.

Human Resources

Contact with other wholesome human beings is by far the best resource for confronting the pupil with reality and for aiding him in interpreting his world. The theme of the previous chapter has been that individuals and his values. A fourth grade teacher who, through her travels, had acquired an extensive collection of dolls and other art forms representative of global cultures, shared these resources with her class of limited background. Later, in a joint undertaking with the class, the augmented display was presented at a school assembly. Thus, a teacher's hobby made life in other countries more meaningful to many children

When a teacher recognizes his proper role in relation to the educative environment, he no longer attempts to limit pupils' opportunities to his own knowledge and experience. He becomes aware of his own limitations and welcomes potentialities for learning which may be represented by all the individuals who attend or work in the school.

One kindergarten class spent a valuable half-hour with the custodian. The wonder of wheels was being explored by the children. Their interest grew out of a cooking experience during which the school cook showed them the wheels on the mixer and the large can opener. The children were looking forward to the arrival of the school custodian who had promised to show them how wheels helped him in his work. His appearance at the door was the only signal they needed for assembling along the side of a cleared area of their room.

First, the custodian rolled into the room a two-wheeled hand truck which he used to transport large boxes of paper and school supplies. He pointed out how the truck wheels enabled him to move heavy loads up and down steps as well as on ramps and over uneven surfaces. The children saw similarity in the operation of the truck and a wheelbarrow. They also suggested reasons for differences that exist in the structural design of the two carriers.

The custodian then displayed a circular-framed dolly holding a garbage can. He explained how the dolly saved him time and many steps in the task of emptying wastepaper baskets, and he demonstrated how the small swivel wheels on the dolly permitted him to roll the can freely in any direction. The children responded by sharing their observations of the use of swivel wheels in their homes. Their observations supported the thesis that this kind of wheel is important and needed.

Next the custodian introduced a fairly large tank-type machine which [illegible]. He demonstrated [illegible] that he could not [illegible] wheels supported [illegible] move the cleaner [illegible] how the small [illegible] permitted him to [illegible] The children watched [illegible] the functioning [illegible] used on the floor cleaner. Finally, Linda commented that the wheels did not function like those on an automobile. Several others nodded their heads in agreement. All continued to watch until the custodian pushed the floor cleaner out of view.

The appearance of a long, narrow, four-wheeled dolly was startling. In a moment or two, some of the children remembered seeing the dolly loaded with metal folding chairs for the auditorium. The custodian said that he could transport approximately 75 chairs on it. He contrasted this load with the four chairs that he himself could carry at any one time. How many children could the dolly transport? Through experimenting, it was found that 12 children could be moved on the dolly. Then the custodian stacked six of the children's large tables on the dolly and rolled them into the corridor and back into the room. The children noted this with approval.

The custodian asked the children to watch the clock and see how long it took him to bring four chairs from the auditorium. Then they watched the clock again as he brought a dolly loaded with 75 chairs from the auditorium. Thus, the children were helped to discover how the dolly really saved time. Wheels had become more important in their eyes, and the school custodian had provided an educational opportunity which caused some children to bring toys to school to demonstrate various kinds of wheels. David brought his crane to explain the caterpillar wheels, pointing out the wheels within wheels. Frances described her father's new snowplow and drew a picture of it.

Individuals in the school setting but outside the classroom who assist children and youth in accepting their own culture can contribute significantly to helping pupils learn in ways other than providing information or demonstrating a process. In many elementary schools, especially in the early grades, the school contacts of the child are almost exclusively feminine. For children from culturally deprived areas of large cities and sometimes from families in which there is no father in the home, the principal, a custodian, the attendance officer, the adult traffic guard, or physical education teacher may represent a needed father image. Informal contacts, coupled with a display of genuine, personal interest in the child, may help such individuals, especially boys, develop better self-images and may lead to their setting new, worthwhile goals for themselves.

There are many resource persons in the community whose specialized knowledge and wisdom are at the service of an individual or a class. Some of these the learner discovers on his own. A committee of a sixth grade class in a community, conscious of urban renewal, used and increased their knowledge of scale as they explored city plans for community renewal. The committee prepared scale drawings of the three buildings which comprised the school plant. Interest in constructing a model of the school plant prompted them to seek the assistance of a friend who was an engineering student. This contact brought a response from interested students in an engineering fraternity at the local university. These students worked with the pupils involved in the project as the pupils corrected their scale drawings, made blueprints, and constructed a model of the school. The university students gained better understanding of the fresh approach elementary school children make to a meaningful learning situation, and the pupils grew in their knowledge of measurement and scale. They grew also in self-esteem, both from the creditable results they obtained and from the experience of working cooperatively with adults.

People rooted in the local community can give a sense of continuity to children and youth. In studying about Cincinnati, one fifth grade class read about Benjamin Stites, an early pioneer. A parent who was his direct descendant brought and shared with the class original deeds to property Stites had owned. Pupil understandings increased as the parent discussed the plan for making land grants that was in effect at the time Benjamin Stites received titles to land in the Cincinnati area.

If a school staff wants seriously to tap community resources, it prepares and maintains a file of parents and other adults in the community who are able and willing to serve in this way. When an individual seeks special knowledge, he should have ready access to the file listing appropriate opportunities. Preparing a student for an interview through planning the questions to ask and the courteous way to approach and terminate the interview involves learnings valuable in their own right.

Cultural opportunities, such as seeing plays by professional actors and hearing directors discuss the workings of the theater, are made available to high school pupils. Businessmen and representatives of industry play important roles in working with secondary schools as sources of cooperative experiences for pupils in the world of work. One junior high school in the heart of a large city plans an annual program during which graduates of the school who are successful in business or a profession will tell how valuable their school experience has been for them. This program should help to raise the aspirations of current pupils as they continue their education in preparation for the world of work.

Such opportunities, of course, have varying significance for different pupils, but for many an individual they bring emotional involvement and add reality to learning. Newspaper personnel, governmental groups, interest groups often set up Saturday or after-school workshops, bringing in speakers and organizing discussion groups to work on problems of concern to high school youth.

Sometimes the chief impetus for using one's potentialities to the fullest comes from the student's home. Shelby's older brother was a graduate engineering student; his father was interested in mathematics and fostered the boy's interest in the field. In this instance, the teacher recognized that Shelby's special talents placed him beyond the majority of the class even though he was enrolled in an advanced placement course in the tenth grade. His teacher gave him the School Mathematics Study Group's books on functions and matrix algebra. Shelby returned the books within a few days with the comment that he had known most of the books' contents before he read them. At the teacher's request, the head of the mathematics department at the local university interviewed Shelby. Subsequently, arrangements were made for him to enroll in college mathematics courses during his last two years in high school.

Firsthand Observation and Experience

The learner's own experiences and his observations of happenings and processes in his environment, together with discussion and reflection, are raw materials which he uses to build his concepts and understandings. Educational trips into the community and processes or performances brought into the school serve to broaden his background of information. The kindergarten teacher, referred to previously, whose children were learning about wheels, brought to school an old fashioned eggbeater. She helped the children make comparisons among the eggbeater, the electric mixer to be found in most homes, and the huge mixer the cook operated in the school kitchen.

Ways should be found to remove some of the blocks to fuller use of the community. Some cities now provide buses for use on educational trips.

In a number of cases, provision is made for giving children from culturally deprived areas of the community opportunities to visit parks, museums and other cultural institutions early in their school life as a means of intellectual stimulation and extension of experience.

All the children in a school or class, of course, may not need the same firsthand contacts with industries or community institutions. Increasingly, arrangements are being made for individuals or committees to visit or interview in relation to their own needs. A parent or another adult often accompanies these pupils if arrangements for trips outside school hours are not feasible. In a number of large cities, volunteer tutors include community excursions to broaden the horizon of the individuals they are helping.

Exploratory and Experimental Materials

To be active in his own learning, the child needs a wealth of raw materials with which to work. Especially for the young child, nothing can substitute for materials which he can adapt to express or to clarify his ideas. Simple, general materials rather than highly structured finished objects are preferable. Through frequent experience in working with concrete, responsive materials, abstract generalizations emerge; thus, the importance of the use of objects, counters, and replications of fractional parts in arithmetic. Indeed, throughout the elementary school and the secondary school when the learner gets lost in generalities and abstractions, the wise teacher has concrete materials and experiences available to clear up confusions.

In the field of science, authorities are emphasizing the importance for pupils to find out for themselves through experimentation. They are urging less teacher demonstration and more pupil participation. This requires that tools, equipment and materials be readily available. At the high school level, this entails a variety of laboratory equipment that can be used for individual projects.

Materials and Opportunities for Self-Expression

Dramatic play, creative dramatics, dramatization, role-playing, and the writing and presentation of plays represent successive levels of complexity and together constitute an important source of educative experience. Materials are not the crucial factor here, although, for young children, a bus to sit in, homemade boats in a harbor in one section of the room, or traffic signs and toy autos add reality to dramatic play. Acting-out experiences enable pupils to put to use information they have gathered through observation, reading and discussion. Such simulated activities are frequently the nearest approach to reality that the school can provide. Dramatization of a trip to the West in a covered wagon enables pupils to live imaginatively with the pioneers. Dramatic activities and role playing involve children and youth in vicarious experiences in a way that promotes understanding and changes attitudes.

Rhythmic activities also evoke understandings, partly because the learner is so completely involved in the activity. Participating in the folk dances of a people, accompanied by characteristic music, helps to provide empathy and insight into the lives of others. Original songs, dances, art expression, constructions and compositions are creative activities through which pupils may reconstruct their experiences in a personal way. At times, these activities have value for others, but their paramount significance remains with the creator.

Printed Materials

Books play an important part in individualizing learning. Through his identification with characters in a book, the learner widens his world. Such books as *In My Mother's House, The Green Song* (a story of a Puerto Rican), *Little Rabbit,* and *When Will the World Be Mine?* can serve the young child well. Similarly, *The Yearling* opens the world to the young adolescent.[8]

While the textbook has its place, dictionaries, atlases, encyclopedias and other reference books have become accepted as necessary aids to learning in the classroom. When a pupil has mastered their use, he has taken an important step toward independence and individualization of learning. If learning how to learn is a major goal of education, help in the use of such tools must be given high priority.

No classroom could possibly be supplied with all the reading material needed for learning that is open-ended, exploratory and diversified. A school library, staffed with a trained school librarian and well supplied with books and magazines, is basic to an adequate provision of resources for learning. Working together, the teacher and the librarian can select collections for temporary housing in the classroom, can plan for the stimulation of reluctant readers, and can meet the special interests of individuals.

The accessibility of books, presented attractively and discriminately, is a large factor in the amount of reading done by pupils, which today exceeds that of adults as determined by library circulation. The astounding growth of paperbacks makes a greater abundance of books available to schools and puts a personal library within the reach of practically every child. Even with the present wealth of appropriate juvenile fiction and factual books, responsible adult guidance is needed to see that the right book and the learner get together at the right time. Whether an individual finds reading a promising way to learn depends in part upon the facility in reading he has developed. Often reading needs to be supplemented by other modes of learning.

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[8] *In My Mother's House.* Ann Nolan Clark. New York: Viking Press, 1941.

The Green Song. Doris Troutman Plenn. New York: David McKay Company, Inc., 1954.

Little Rabbit—Un Petit Lapin. Matias. Bilingual, French and English. New York: Henry Z. Walck, Inc., 1961.

When Will the World Be Mine? Mariam Schlein. New York: William R. Scott, Inc., 1953.

The Yearling. Marjorie Kinnan Rawlings. New York: Charles Scribner's Sons, 1961.

Various Audio-Visual Materials

Alert teachers now look upon pictures, slides, models, filmstrips, silent and sound movies, and recordings as an integral part of the school program. If these aids are to make their full contribution to individualizing learning, the teacher must be knowledgeable about the materials available in each medium and their relevance to the current learning enterprise. The aids must also be accessible for ready use as emerging needs dictate.

Technological developments have made possible the use of audio-visual materials by individuals and small groups. A tape recorder permits a pupil to record for later playback a radio presentation, a selection read orally, or a speech he is preparing. For example, two pupils who had read the same book made individual tapes of their reactions to the book. These became the basis for class discussion and interaction on a problem situation centered in the book.

The tape recorder also permits a teacher to study by repeated reruns the language patterns or conversation lacks of a group. A record player equipped with earphones can be used for pupils to work with materials, sometimes prerecorded by the teacher, without disturbing other class members. New developments in equipment allow a small group to view a film or filmstrip without darkening the room. At Purdue University students can sign for any visual aid in much the same way in which one receives books in a library. Hopefully, every new school will include plans to bring a wealth of learning resources together in a materials center, possibly combined with the school library. If the center includes facilities for local production of learning aids by teachers and pupils, materials can be more closely related to needs.

Newer Learning Media[9]

Many examples of the value of these aids might be given. In one instance, a fifth grade class in a suburban school was studying about the western part of the United States. The teacher of this class invited a parent to show slides made during her several visits to the West. The intense interest in the scenes contained in the slides—the tarantula in the shoe left on the floor at night, the snake which insisted upon staying at the front door entrance to their cottage—plus the narrator's warm presentation, encouraged pupils to raise questions and discuss with the teacher items they would be less likely to glean from their individual and group research. Of course, trips to a museum and the use of various audio-visual aids were a natural part of the study.

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[9] The entire issue of *Educational Leadership,* April 1963, has discussions of new learning media.

Selected for separate treatment are newer media presented to educators as a complete program: educational television, language laboratories, programed instruction, and cross-media packaged material.

Television can reach an unlimited audience, and it is capable of registering a convincing, unified impact upon the senses of seeing and hearing. Though the content that television presents may sometimes be inferior, unwanted or undesirable, the fact remains that this medium is essentially free of restraint either as to distance or time.

Commercial television brings to learners history in the making through programing such events as a presidential inauguration or the launching of a rocket carrying a space craft. It can provide viewers with experiences beyond their reach, like attending Shakespearean plays or the Olympic games. It can provide students a clearer picture of an action than the viewer would secure if he were present at the scene, as it does when it programs a surgeon performing an operation or a pianist playing a concerto. Teachers familiar with current offerings can refer individuals to appropriate programs.

By way of educational television, learners can hear and see important resource people who would find it impossible to visit the many classes which they reach with immediacy and intimacy by way of the television screen. Learners can and do achieve closer, more discriminating views of processes and procedures, together with the results. They have an opportunity to experience with telling impact something which they have never previously viewed.

Many educators believe that television series should be planned not as a complete course but as an adjunct to classroom instruction. They believe that television should present resources and materials which would be impossible or difficult for the classroom teacher to prepare. Ample time should be provided for the viewers' preparation for and follow-up of the lesson, and for the class members to experiment, apply, and find solutions to their own problems. While pupil involvement in learning is more likely with the teacher and group in a face-to-face situation, television presentations, worked out cooperatively by the station and the classroom teacher, bring a valuable added resource to the classroom.

Usually the teacher with his class should be free to select only those lessons which are timely and appropriate. A special case could perhaps be made for a foreign language series in the elementary school. This is especially true if it is decided that children should become acquainted with a language and if classroom teachers lack knowledge or proficiency in its spoken form. A main problem to be solved in using television instructionally is to bring it under easier control by the teacher so as to permit better articulation with other educational experiences. Another problem yet to be resolved is that of deciding what educational objectives are most efficiently attained by television.

Language laboratories, used chiefly in secondary schools, permit pupils to check individual spoken responses with reliable models and, therefore, aid in individualizing instruction. Portable models have brought costs down and made language laboratories more accessible to the classroom situation. Probably this equipment should be conceived of as a sound laboratory shared by several fields.[10] For example, pupils with speech problems may hear and repeat acceptable language patterns, and pupils may record and play back oral reports before giving these in class.

Programed materials seem, on first consideration, to be a promising vehicle for relating education to the individual learner. In contrast to identical instruction given simultaneously before a total class by lecture or television, programed materials are addressed to the individual learner. Generally, programing consists of a sequential ordering of items, presented as frames, to which the learner reacts with immediate reinforcement of his response. It is claimed that programed materials serve much as an individual tutor and that their impersonal nature provides the advantage of infinite patience.

Both the linear and branching types of programing have certain advantages. Which type or what particular program is selected must depend on the teacher's goals and the ability of the pupil. Certainly, both types of programs can result in mastery of rote material such as number facts, spelling words, and vocabulary development. A recent programed text in poetry gives promise of developing insightful learning.[11] In both types of program, however, originality of response is seriously restricted. Programs which utilize branching seem to hold most promise for permitting development of higher mental processes. Improvement in program content and in procedures used in presenting programs can be expected as a result of experimentation and further use.

Questions we should ask before selecting a program for simultaneous use by an entire class are these:

1. *How does the content of a program compare with that of our own curriculum?* If only a portion of the program's content is similar, the program probably should not be used.

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[10] Harry Regenstreif. "Why Stop at Language Labs?" *Audiovisual Instruction,* 7:282-83; May 1962.

[11] James M. Reid, John Ciardi and Lawrence Perrine. "Poetry: A Closer Look." *Programed Instruction with Selected Poems.* New York: Harcourt, Brace and World, 1963.

2. *What are the objectives of the program?* How do they relate to the outcomes sought by the pupils and the teacher? If the objective is rote memory of an established body of knowledge, programed materials might well be a valid choice. If the objectives include an analysis of complex data, development and testing of hypotheses, or the evaluation of current events, other types of instructional procedures must presently be used.

3. *Will the program stimulate and maintain the interest of the pupils?* Some schools report that the novelty attracts pupils at first, but that eventually the materials become boring to many pupils.

4. *Are rate and reinforcement of learning more important factors with regard to the needs of a particular class than originality, inquiry and discovery?* One of the main strengths of programed materials lies in individual pacing and reinforcement. Children may vary in their need for these attributes.

5. *Can the programed material be scheduled so that it will be well articulated with other learning activities?* Does the program lend itself to further inquiry and discovery by the pupils, if such activity logically should follow?

These materials, when they are well constructed and when they serve to further current educational goals, have a place in education. Eventually, they will be presented in forms which are more adaptable. Smaller units, or courses broken down into independent parts, would enable an individual or a group to pursue a topic in which there was particular interest, to work through a sequence of material which was missed by absence or in which review was needed, or to alternate presentation with application or discussion.

It is obvious that what is needed is a skilled teacher who can answer questions raised by the pupil and can guide the learner into opportunities which supplement the program. If, as their adherents claim, programed materials can reduce the lockstep in education, can free the teacher from repetitive instruction to work with individuals and small groups in a more intimate way, their use will contribute to releasing the potentialities of the learner.

Cross-media packaged materials have recently been produced by educational publishers. These learning units are planned for individual, group or class use and bring together a variety of types of learning aids focused on a particular topic. Such packages may contain filmstrips, films, booklets, supplies, and manipulative or practice materials. Where they are educationally sound, these kits may offer opportunities to individualize instruction and reinforce learning by multisensory appeal. The narrower the topic treated, the more versatile the use of these kits with individuals or small groups is apt to be. Like any other aids, each kit must be evaluated in terms of its relevance to educational goals.

Guidelines for Selection and Use of Learning Resources

In the view of the committee responsible for this volume, evaluation and use of all resources for learning must be undertaken within the context of a belief about how the potential of individuals can be released and nurtured toward optimum development.

1. *The selection of resources should be in terms of criteria.* Obviously, judgment is required in both the long-range and day-by-day choice of learning materials and in the ways in which materials are used with the learner. With increasing maturity, the pupil should assume increased responsibility for knowing the kinds of materials and processes that will serve his need and the skills needed to locate and use these resources. In a certain sense, however, the teacher should bear the burden of insuring efficiency of learning by organizing and having available needed resources to which to direct the child. At least, the pupil's quest should not be too frustrating, if the teacher wishes to keep alive the enchantment and the challenge that are inherent in discovery in learning.

Each medium for learning has certain advantages and certain limitations in terms of what the teacher and the pupils are trying to accomplish. It is usually preferable to use a combination of learning materials rather than to promote the exclusive use of one, whether this be textbook, film, television, or some other type of material.

A few criteria in the form of questions may be helpful as a basis for selecting learning aids. Any given resource may not meet every criterion, but the pupil should spend the major part of his time with resources that meet most of the following criteria.

Does the resource foster an active, inquiring role for the learner?

Does the resource provide for independent use, with self-checking possible, or must it be closely supervised?

Does it constitute "raw" material so that the learner can adapt it or reformulate it to his purposes? Will he be able to sense its relationship to other learnings, and can he form his own generalizations? Or, is it a resource that can be used only in prescribed ways or that anticipates only passive reception by the learner?

Is the resource characterized by open-endedness? Will its use lead to new interests, new sources, new discoveries?

Must the learner accept the content as a whole, going through

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To initiate our discussion of supervisory and administrative roles, Ronald Doll reminded us that we had received a list of ideas which had pervaded previously written chapters of the yearbook, and that we were to select some of these points "to see what they say about helping teachers release potential in boys and girls, and also about helping teachers release potential in themselves."

Frank Morley responded first: "I think we have often tried to achieve openness which permits response and interaction. Most of us have felt that the only way you capitalize on the particular talents and resources of persons in their situations is to establish an openness which will invite contributions, invite participation, and invite interaction among staff members. Frequently, this invitation is direct and in relation to assigned problems, but you would also hope that sometime you would arrive at a point where individual teachers and groups of teachers would work on problems which they have identified themselves.

Decentralization encourages an openness which permits response and interaction.

"One thing this leads me to in my thinking is that you can characterize the operation of a classroom, a school building, and a school system that has openness as one which in many ways has become decentralized. In the classroom you have a teacher who can decentralize his operation and help individuals and groups of students legitimately engage in various activities, producing varieties of products as a consequence of those activities. By the same token, in a school building you have a principal working with his staff in such a way that individual staff members and teams of staff members also identify projects that they want to work on. These projects are supported by the principal. In a total school system, the central office works in such a way that there is building autonomy established to the extent that a building such as Gerald Baughman's can go into an ungraded primary plan, and try it without thinking that this obligates everybody else in the system to try it. Such decentralization might be contrasted with the situation where there is one person in the classroom or in the building or in the school system who is trying to keep track of everything, engineer everything, and process everything."

"Let me express a negative thought," said Doll. "At one time I believed that I should get teachers to volunteer for all sorts of projects that I thought were interesting. Then I overheard a conversation one day in which a teacher asked, 'Are you going to be a member of such and such a committee?' And the answer was, 'Well, I may just as well be because next year I will have to be a member of *some* committee, and I may as well get it over with.' This made me wonder if it wasn't important to have a system of modified volunteering in which school leaders take a look at who is around them, who can contribute most to a project, and then tap these people on the shoulders politely, but involve them nevertheless on some basis other than pure volunteering."

Teachers and pupils
should not be limited so
closely to one working domain.

Gerald Baughman came in at this point, "Openness will come out of the classroom situation if opportunity for such openness is provided, and I would not think of it in terms of committee work. If your situation is such that people feel free to move beyond their classrooms, chances are better of getting at their potential. I think that the exchange of ideas from one teacher to another will not come freely without teachers moving out of their classrooms and exchanging pupils. In the elementary school, I think the concept of a child's working only in one given situation should be examined. The child may need to be placed in numerous situations, for each one provides him an opportunity to grow. If teachers and administrators recognize that children from one room may go to another, that the whole class may go, that a teacher may come from one class to another, this kind of cross-fertilization brings ideas for projects spontaneously from the staff. They then, in turn, come to the principal and say, 'We want to do this.' Or they even come and say, 'Well, yesterday we did this and you were not around. We went ahead with it anyway.' So I think there has to be considerably more openness."

"Are you saying," Morley asked, "that shared responsibility supports cooperative action; that if you set up a situation in which two or more teachers share the responsibility for a group of children or for a given child, this action may precipitate cooperation among the people who share the responsibility?"

Sharing responsibility
encourages cooperation.

"Yes," replied Baughman, "if you have competent teachers who share responsibility for children, they begin to share the curriculum of these children. They say to each other 'You are doing something to benefit some of my children, and I am doing something to benefit some of yours.' The exchange may be for a couple of weeks, more or less."

Superintendent Frank Stover now entered the discussion: "We had such a situation in a junior high school about a year or so ago when we were eager to explore the possibilities of a new kind of general science in the ninth grade. The need for this arose primarily because of the heavy science sequence in the elementary schools and in the seventh and eighth grades. We had three teachers, one from the social studies field who was a geologist by avocation, another a science teacher, and the third a mathematics teacher. They shared responsibility for several groups of students for a period of a year, trying to evolve a ninth grade general science course. The class did not belong to any one teacher in particular in this situation."

Stover then shifted to an application of the idea to a whole school system. "Now a very simple device I have seen in effecting exchange in a total school system is getting the elementary school teachers together in an unstructured arrangement so that kindergarten teachers talk with kindergarten teachers, and first grade teachers with first grade teachers, and so on. No administrators are present and no record is kept. The values that come from this exchange are significant for the reason that if people feel that other people in the school system are free enough to experiment and to try ideas, it encourages them to try things also.

"If in your administrative council, or whatever you call the organization in which principals and supervisors meet, projects going on at the individual school level are discussed by the administrators, the discussion creates an atmosphere in which an administrator or a supervisor who may not be doing anything particularly new feels free to investigate and see what he might do. An atmosphere in which people can change and experiment and grow becomes a system-wide thing and not just a classroom situation. In other words, I am saying invention breeds invention if you can create the proper atmosphere."

"Are you saying," asked Morley, "that the teachers in the situation you have described have no prescribed agenda, but that they do have the opportunity to talk freely together?"

Teachers must use opportunities to learn from each other.

"Right! And a similar procedure which is very important for many of us who have so many new untried teachers is to urge them to visit frequently with people we think are extremely creative or extremely competent teachers. Have them spend a day with no particular reason other than to observe effective practices. We find this to be a very helpful inservice device, because again the young teacher comes to feel that he is not chained to a certain set routine, for he sees somebody else who is able to cut the ribbons and do something a little different."

"Can you work that in reverse?" asked Carl Salsbury. "When you have younger teachers who have attended natural science institutes and the like, I think the more experienced teachers very frequently can profit from seeing what some of these people are doing. Of course there is a lot of resistance on the part of some of the older teachers to visiting younger teachers, but I think they can learn from them. What I mean is that if you are going to have openness, it has to extend in all directions."

Contributions of all staff members will be welcomed.

"Of course, I think we are also stressing here the element of recognition," was Stover's reply. "If we were teaching a class in creative writing, we would expect to acknowledge outstanding work and have compositions read and have other people appreciate them. I think the same thing goes for teachers. If something significant has been done, we should give the teacher a platform from which to speak and an opportunity to have other people probe him with questions. I think that this is part of developing creativity; that anybody who is creative is not creating in a vacuum. He wants to have at least some chance to tell what he has done. The opportunities that one provides for this to happen in a school system are important."

Then Morley asked, "Are there hazards in promoting recognition by parents, let us say, by giving an experimenter the opportunity to share with parents what has developed?"

"There are hazards," responded Stover. "As soon as a parent realizes that his child is in an experimental group, he wants to be assured of the experiment's success. And sometimes we don't succeed in communicating too well the purpose of the project. This can cause some difficulties. Neither teachers nor parents should expect predetermination of the results of experimentation."

Salsbury now told of an instance in which parents and teachers had explored together the content of language, mathematics, and science programs. As a consequence, the parents encouraged teachers to achieve a greater degree of openness toward experiencing and experimenting.

All teachers need opportunities to achieve openness.

Doll steered the discussion back to a previous comment. "I liked the reference awhile ago to the need to find and develop potential in all sorts of teachers regardless of age level or experiential background. Some teachers by virtue of their backgrounds tend to be 'closed' in their outlook. I think of an English teacher who was very good at teaching classical literature, but she couldn't see the contribution she could make to the pupil population that was going out directly into jobs and not going to college. Finally, the high school principal said to her, 'You have a couple of days of visitation coming. Why don't you choose some kind of opportunity that will get you away from schools? Visit somewhere else.' He was pleased when she went to the employment offices of a couple of the firms that employed the high school's graduates and looked at the graduates' interview results. She saw the forms that the alumni had filled out and the letters of application they had written. She came back realizing that there was something in the world besides Shakespeare, good as Shakespeare was, and that she could contribute. So she came to the realization that she needed to open the environment of her pupils, and also to continue opening her own environment."

"I think the February 1963 issue of *Educational Leadership* has material in it to be considered in connection with this particular discussion," Salsbury injected. "Our staff has lifted something from it with regard to the alienated, disaffected, uncommitted youth that we have in suburbia, and I think it is in line with what you have just said. It states, 'Perhaps the best-proven fact in educational research is that each human being is unique. We will have to make it possible for unique learners to do different things and to come out with different learnings. They come out with different learnings now, and always have, but we teachers have not as yet accepted this fact. This failure to accept the obvious and the inevitable spoils the lives of many teachers.' "[1]

Morley raised a question as to whether creative, innovating teachers tend to be threats to other teachers. He cited a situation in which two innovators engaged in almost open battle to determine which one could "out-innovate" the other. The conflict was resolved only when both teachers left the system. "How do you deal with conflict of this sort when you achieve openness?" he asked.

"I think an important aspect of openness is the obligation of the educational leader to see to it that he recognizes in every way he can all kinds of contributions," replied Doll. "It is true that the 'fairhairedness' of a principal's favorite causes other teachers to avoid doing what the fair-haired teacher is doing. The comments go like this: 'This is her empire. Let her operate it. We will continue to operate as we always have.' Well, the leader should recognize that contributions come in many dimensions. He may say, 'This year we are not necessarily emphasizing spectacular projects. Many of the routine, day-to-day things we are doing need improvement.' or 'Are you doing something outside school that is an important community service which reflects on the welfare of the school?' Leaders need to see a wide range of possibilities to which they can give recognition."

"I think we have to be realistic," countered Stover, "and say that the innovator is always likely to be suspect whether he is a pupil or a teacher. There is an old saying in industry, 'These fellows end as vice presidents, not as presidents.' In other words, I think part of the problem of the building administrator is to protect the innovator somewhat from the great mass of general practice and conformity; to help him acknowledge the fact that if he does something new, he is likely to be criticized severely by those who do not want change. While we can try to provide an atmosphere for change and try to recognize everybody else, I do not think we can get away from the fact that the unusual youngster in the class or the unusual teacher in the building will experience a certain amount of tension in dealing with the rest of the group. I think we are unrealistic to believe otherwise."

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[1] Earl C. Kelley. "The Dropout—Our Greatest Challenge." *Educational Leadership* 20:296; 1963.

Administrators should protect,
strengthen and reward
creative teachers.

This prompted Baughman to comment on the merit system in Ladue. "An evaluation program like that in Ladue has built-in rewards for the teacher who is the innovator, both in terms of the evaluation the principal makes, this being a written evaluation, and in terms of a financial reward which is a very definite and specific sign of recognition. I think that merit systems could be made to provide rewards for unusual teaching."

Doll reacted rather quickly to this. "Do you find that your system of rewards causes some persons to strain to be an innovator in order to secure the reward?"

"We have just been studying this possibility," replied Baughman, "and I believe that the consensus is that this is not a problem."

Morley supported his fellow worker: "What Gerald is saying is that perhaps there has to be openness in our reward and recognition systems, and this is not typical of school operations. Normally, schools have closed salary systems, don't they? What, then, can we open? Can we vary the written reward, the oral reward, or some other kind of recognition? How can we have openness in our recognition systems?"

Doll referred to the importance of motivation. "We keep saying it is intrinsic motivation we want. The question is, What is intrinsic in this area? It seems to me that the urge to inquire, the curiosity we cherish in children is relevant here. Somehow leaders need to help teachers develop similar curiosity. If curiosity moves them, then the increase in salary is strictly secondary—though this is probably too idealistic a view for many people."

"I have found that rigid or narrow evaluation closes situations instead of opening them," Salsbury professed. "Under systems of evaluation, teachers fear becoming suspect. They do not innovate as much as they once did. They resent pressure and think it unprofessional. At one time, perhaps, they considered their pupils to be their clients, who were to be treated as a lawyer treats his clients or as a doctor treats his patients. They were concerned for the welfare of each and every pupil. They *were* innovating, trying very hard to meet the needs of their differing clients, and they were working together with other teachers more closely. But now, under a rigid evaluation plan, they are saying, 'O.K., if this is going to get some of the other teachers career status, why should I do it for them?' They are not sharing to the degree that they have been sharing before. And we do not have the openness—."

"How about their taking out a copyright on their own ideas?" Stover asked facetiously.

"That is almost the way it is, Frank. That's the way they begin to feel," concluded Salsbury. "It reminds you almost of the teacher who said, 'I wouldn't for the world let anybody borrow any of my ideas. If I have something on the blackboard, I hurry to erase it so that other teachers won't look through the glass door to see what is there.' Now, I think, one of the aspects of openness is just willingness to share ideas."

Administrators need to study ways in which teachers are motivated.

The idea of different kinds of recognition was still in Stover's mind. "Of course, I think that recognition, financial recognition, is important, but I really think the people we are talking about want a different kind of recognition. The most recent example I can think of is this. We were trying to organize a well-articulated program of foreign languages, grades seven through twelve. We have had a great deal of difficulty among educational levels. We have a person who I think is very creative in foreign languages, fluent in four languages. He has been able to take a leadership role among the teachers in grades seven through twelve. Now, one of the forms of recognition for him is coming before the Board of Education, explaining what he is doing, and also talking with parent groups at two educational levels about what the program is and what the teachers have been trying to evolve. It is true that he receives extra compensation for being a chairman. But, if I know him, his major reward is recognition of his leadership by the staff as well as the lay public and the Board of Education."

Morley responded: "We are saying in the yearbook that we want pupils to develop commitment. We want them to develop independence and a real desire to learn, a real curiosity and a sense of their own power. It is this drive within them that will ultimately make them people who can capitalize on life as they live it as adults. So in the same way, we are probably asking the questions, 'What is it that fires a teacher in the same fashion?

What makes him feel that he is operating as a professional person, carrying a real responsibility and a really dynamic, creative role in providing what is necessary for each of his individual students? How do we lead teachers to a sense of urgency? Or how do we encourage this sense when we see it?' "

The importance of teacher initiative.

Salsbury was the next participant to come in. "I think one thing that is very important is that we supervisors and administrators really believe that teacher initiative is of ultimate importance. So frequently we impose our values to block teacher initiative. If we make a teacher feel free enough, he realizes the door is open and he will take the initiative. He comes to the supervisor for help."

"Yes," said Morley, "we need to ask ourselves now, 'What is it the leader does to convey to the teacher the notion that he believes in teacher initiative and assumes that initiative rests with the teacher?' "

"One thing we can do," Salsbury responded, "is to work very hard to eliminate blocks so that when a teacher comes up with an idea, we do not just say, 'This can't be done. It interferes with the lab schedule' or 'We don't have money enough to buy the construction paper you need.' We must find ways of meeting reasonable needs, refusing to let ourselves be overwhelmed by minutiae, as we too frequently are. We are so concerned with getting things near at hand accomplished that we fail even to listen to ideas."

"And how do you make yourself available for listening? Maybe this is important," Morley added.

"I think listening is very important," agreed Stover. "I think that the superintendent, as well as the building principal, has to have an open door. That is a cliché, but really it is important. He has to go around physically and indicate his interest so that the people in the system feel that this is a place where administrators care about seeing and listening to what is being done.

"Now a more tangible thing comes down to *money*," continued Superintendent Stover. "For some years I have believed in a system of budgeting supplies and books by which you do not spend all the money in the spring but leave leeway for the fall. You leave enough leeway so that if somebody wants to do something, he can come to the central pool and find the money to do it. We also have a research budget, not a magnificent one. Yet if somebody should have an idea next September that would cost somewhere between $500 and $1,000, we would have the money to act upon it. I do not have to say, as was said to me when I was a teacher, 'You will have to wait until the next budget, a whole year!' I think this is the surest way to kill off teachers' enthusiasm because many creative ideas are going to take money. They are going to require materials, books and other kinds of resources. They may require travel to professional meetings where a topic teachers are interested in is being discussed by people whom they respect. In a case like this, we should be in a position to say they can go. I think all of us must have worked at some time in situations where we could not do this, where we had a very frustrating experience."

"I am going to correct myself, Frank," interrupted Salsbury, "because of what you have just said about money. I think very frequently we let money be too much of a block; that is, if teachers would get out of the way sometimes, we would find that pupils have ideas, just as creative ideas as a lot of teachers. Sometimes when teachers get out of the way, pupils find ways of doing things, and it is absolutely fantastic to see the things that they can do with what is at hand. So frequently, I think, supervisors do the same thing. We say we just do not have money, while the teachers, if we would listen to them, and let them go ahead, would find ways of working that would not cost so much."

Doll offered an example stemming from a visit to an elementary school in Pennsylvania. "In this school," he said, "the principal had got out of the way of teachers with respect to ordering materials. These teachers were operating cooperatively and were buying materials when they needed them, watching their own budgets and trying to avoid duplication. They had a plan developed whereby they could spread the nature of the materials among more different kinds of projects than would normally have been done if they had had just a standard form out of the principal's office on which to list their requisitions."

"That's all right, I think, if we have enough organizational know-how to do it," responded Stover. "I could see some places where this arrangement could be disastrous. Now, I saw it operate very well, though, in the social studies in cooperative buying of paperback books for several classes."

Lack of funds and resources
often is used as an excuse
for failure to act.

"Can we decentralize our financial operations? Can we create subbudgets within which people have freedom to operate?" Morley asked.

"The forms themselves need not be restrictive," Stover continued. "I know a teachers' committee that reorganized the forms. But it is possible, of course, to let permissiveness in buying go to extremes."

"This discussion reminds me," said Morley, "that we need not always look outside our own groups and beyond our own resources for solutions to problems. Doing things in ways which throw people back on their own resources may bring about discovery and use of potential. In other words, when someone requests something, instead of satisfying his wants immediately, it may pay to delay a bit while he rethinks his request, reanalyzes his resources, and finds that within his own environment he has better and more appropriate resources than can be bought. Use of their own resources can strengthen people. We often look outside for flashy gimmicks. Think of the science curriculum, for instance. We are now getting packaged science kits. This might lead people away from the idea of salvaging or making use of what is already in the classroom itself. We know that in the potential resources of any school or classroom there is as much demonstration and utilization of scientific principles as there can be in a science kit that somebody else prepares. People are sometimes lured away from the best resources just by . . ."

"We had two good illustrations," interrupted Stover. "One was in junior high school where we were developing an electrical course, and the instructor and the youngsters developed their own benches and outfits. Also, in electronics over in high school, the same thing happened. We had to find some money for basic materials even though they were using their own ingenuity in order to make the project possible."

The leader should respect and assist his teachers.

"Frank, even more fundamental than these ideas is the attitude that the administrator takes toward his staff," asserted Baughman. "He has to convey directly and specifically to staff members that he respects them as professional people; he must do this both privately and before the public. The administrator, in the way he handles details, can do a great deal to help build an image of these persons as highly professional and skilled people. And thus he can provide security within which teachers will open many doors for themselves. If they feel dignity and respect, he has removed many barriers that he could not remove artificially."

At this point, Morley noted that supervisors and principals can help build the images pupils have concerning their teachers. This can be done particularly by treating teachers appropriately in the presence of pupils.

Then Doll remarked: "I have a notion that some of the best supervision comes in terms of helping teachers with what they really want to do. The supervisor should often serve *with* the teacher, 'getting his own hands and feet wet' in the classroom. I think of this with reference to principals and traveling supervisors who are generalists."

"Very true of special supervisors, too," professed Stover. "We had an interesting experience with this. For some years we had teachers in the elementary school called remedial reading teachers. We felt they were reaching a very small proportion of youngsters who needed help in reading. We altered their role, of course with their help and willingness, so that they became consultants to the classroom teacher for the most part and spent most of their time helping teachers with materials and techniques, suggesting ways to work with different kinds of youngsters. The interesting thing about it was that when we started, we thought that the service would be used mostly by new teachers and teachers new to the system. After about six months of operating, we found that teachers who had been with us 25 to 30 years were asking these people to come in to make suggestions. The teachers did not look upon the reading specialists as inspectors of any kind. They were looking to them as resource people, and we saw quite a change in teachers who had been with us for a long time."

"I suppose you have illustrated what I meant, assuming that the teachers in a given instance really want the kind of help the specialist can give," Doll responded. "If a reading specialist is to release potential in teachers, surely he must deal more and more with the teachers themselves so that they develop insights to use in working with pupils."

The teacher needs to be supplied
with rich resources.

"Aren't we saying that change in staffing and operation in this instance led to centering resources around the teacher?" asked Morley. "We should tend, I believe, to recognize that the teacher is the person who is responsible for directing learning. We should enhance his role by bringing resources *to* him to help him. This is in contrast to saying, 'Teacher, we know you can't do this particular task, so we will bring in a specialist, and you will ship your pupils over to this specialist.' When we make statements like this, we do not enhance the teacher's role."

"It is compartmentalizing the teacher," acknowledged Stover. "We may bring in resources for teachers in fields that are not subject-centered. For instance, we bring in social workers or psychiatrists or psychologists to help teachers understand the special problems that pupils may have, by means of case studies, discussions about ways in which to hold conferences with pupils and parents, ways of proceeding in child study. We are trying to help teachers learn to appreciate the potential of youngsters, some of whom may be quite different in their mores and backgrounds from the teacher's own experience. The so-called pluralistic society has been referred to in earlier chapters. There have to be ways to help teachers learn to know the unique difficulties, problems, and potential of youngsters who are very different."

"I think you are getting close to something that Kimball Wiles stressed in a talk in Atlantic City. He emphasized the importance of mental health in realizing the potential of all human beings," suggested Salsbury. "We forget sometimes in our emphasis on the development of the intellect and the development of intellectual potential, that this will never take place continuously without practice of good mental hygiene. This is becoming especially true with regard to the increased pressures which are being brought to bear on all people today."

"Does not this, in effect, make the nature of the experiences that the child has as important or more important than the subject matter with which he comes in contact?" inquired Baughman. "Speaking specifically about the elementary school level, I think that both the kind of experience a child has and the content which is being presented to him are important. You have basic subjects such as reading, and there is no substitute for them; but the fields of knowledge are so vast that the nature of the experience the child has is, in my opinion, as important as the subject matter that is being presented."

"For instance?" Morley asked.

The nature of experiencing makes a difference.

"First, within the classroom, I think it makes a great deal of difference what a teacher does. Children should have an opportunity to engage in inductive and deductive reasoning, as opposed to rote memory work. They should have an opportunity to discover relationships for themselves, to seek answers to questions posed by the teacher. Many of these questions should have more than one possible answer. Children need to know how and where to seek information, how to organize it, how to evaluate it. In today's society, the knowledge of how to relate facts is as important as the acquisition of facts. Above and beyond that, I think the child should have the experience of working with more than one teacher, with more than one group of children. A child may work on something privately, but let him have the experience of explaining it to other children. This is a real learning process in itself. When a child has to get command of ideas in such a way that he can present them to someone else, this is quite different from his answering questions about them on a test. We have seen this happen with sixth grade children presenting materials to first graders. The preparation they had to make and the terminology they had to use surprised them. They saw then, in a sense, some of the problems their own classroom teacher was faced with, and they had a greater appreciation of what their own classroom teacher was doing. They had a chance to play more than one role. And these experiences were more important than what textbook they were using."

"I think what you are suggesting is equally true of secondary schools," affirmed Salsbury. "Interaction improves the chances of realizing potential not only in students but in staff members as well. People interact with one another and as a result they understand themselves and their problems much better than if they were in just a single situation. It is possible to organize action teams of staff members so that people may interact more readily."

"How do you do that?" asked Stover.

"In several ways. One way, of course, is through departmentalization, but a better way is to focus on atypical youngsters: the gifted, the slow learners, the uncommitted, the alienated. We form teams of teachers, guidance people, administrators, and others who work with atypical youngsters on an unscheduled basis, whenever the team captain calls them together to consider the problems of the youngsters who have been assigned to them."

"As in a case conference?"

"Yes. Sometimes we bring in our school psychologist. Many of these youngsters, you see, are with the same six or seven teachers, and they have a common counselor, principal, and vice principal who work with the team."

New experiences help to evoke potential.

"This makes me think that one of the means by which we can discover and develop potential in teachers is to involve them in new experiences," commented Doll. "I find that many teachers have had no contact with case conferences until they move into alert school systems. In the same way I think teachers do not develop a perspective for administration unless they go to work on some of the kinds of adminstrative problems we have been talking about, where they have an opportunity, for instance, to make supply lists; where they have an opportunity to struggle with problems of salary allocations and of budgets generally."

"The whole idea of tapping a person's resources by assigning him different roles certainly applies both to pupils and to the staff," Morley said to reinforce the point. "As we can put the teacher who is normally lecturing into the role of being diagnostician, or into the role of being an administrator of just a small enterprise, his or her eyes will be opened to new demands. And especially if the necessary resources are there, our action will tap new powers and develop new insights."

"Whenever possible," added Baughman, "teachers should be permitted to make their own commitments. They may want to try new roles in team settings or individually. Just open the door, let them make their own commitments. Sometimes you may find you almost need to hold them back."

"We want pupils to arrive at points of commitment. You are saying that we want staff members to do the same thing."

Stover noted at this juncture the need for teachers to recognize potential in pupils other than the gifted. He also spoke of the corresponding need for administrators to help teachers attain skill in recognizing the potentialities of slow learners, partly because they tend to stereotype these youngsters. He said, "I have the impression that they understand so-called average and above-average learners better than learners who have not been favored intellectually."

Doll generalized that finding potential in learners of all sorts is one of the teacher's most important responsibilities, though it is one which he scarcely knows how to discharge. "Status leaders should help teachers see the importance of responsibilities like this. Very often, what is really a large matter seems to the teacher to be a small matter; and vice versa. We need to help teachers see what is important and also what is relevant."

"Sometimes," said Baughman, "teachers feel so committed that they believe everything they say and do is absolutely crucial. Sometimes you have to help them see relevance in the sense that everything they say and do is not equally relevant."

"The word *relevance* rings a familiar bell," Morley reminded the group. "Earlier in the yearbook, we talked of the teacher helping pupils see personal relevance in what they are learning, and now we are talking about helping the teacher see professional relevance in what he is doing: professional relevance to the building staff, to the school system, and to the state and nation. Maybe this takes us back to an earlier problem, the function of the innovator as a threat. We have to cultivate the idea of professional relevance and of the professional contribution that the innovator is making. We have to persuade others, apparently, of this relevance, and persuade them that it is not just an individual, isolated thing that the person is doing. Rather, he is doing something which is professionally usable and relevant far beyond his own classroom."

Leaders should help teachers see professional and personal significance in their work.

"Then," cautioned Doll, "at the same time we must not lose personal relevance for that teacher within the framework of professional relevance."

"We have to guard against the teacher's getting to the point that Gerald mentioned. He must not feel that every time he has an idea, it is so personal, so crucial, and so significant that you have to light up when he mentions it, or he feels you are throwing cold water on his plans," Morley responded.

"You are treading on the edge of a very delicate blade," warned Doll.

"Especially when you're dealing with people who have considerable potential," Baughman added.

Doll continued, "If you slam the door, thereby encouraging closure rather than openness, then I have a conviction from personal experience as a classroom teacher that I would tend to close the door on pupils. If I felt the door had been closed on me last hour by the administrator, then this hour I would really close doors for the pupils."

"I think what we are toying with here is something Frank touched on earlier," Morley conjectured. "We feel the pressure of potential and innovation at the creative end of our staff, and sometimes lose sight of the fact of potential in the less creative members. Certainly, we must be concerned for less creative teachers and encourage them to come out, to express themselves, and to use their resources. I think it is only with certain extremely creative persons that we probably have a need for exercising restraint. They have a million ideas. You simply can not always keep up or keep in tune with them."

Leaders need humility and self-criticism.

It was then that Stover took us off the hook: "I think part of the solution, if there is a solution, lies in a general atmosphere of humility and self-criticism. If a principal or supervisor has the sincerity and the honesty to say that he himself has tried something and it has not worked too well, or that our group has tried something and it has been ineffective, he may have the humility to say the chief fault was probably his. In other words, he criticizes himself as well as evaluates others. He has to create an atmosphere in which it is all right to make a mistake or it is all right if teachers did not quite accomplish what they had hoped they would. I have to say that humility and self-criticism are not too often found in an administrative group, not as often as they should be. The administrator, temperamentally, frequently feels the need to be right all the time, and this because he is mainly on the defensive. He is in an intermediate position. As a result, staff members fear that they can not afford to make a mistake; they can not afford not to do quite what should be done.

Differences among principals, as well as among teachers, must be recognized.

"Now, I think we have talked a great deal about teachers," continued Stover, "but we have not talked about the supervisory personnel, particularly principals, as much as we might have. We speak of selecting teachers for their talents and encouraging them to take a leadership role in various things. This is also equally true as far as principals are concerned. Some principals have mostly organizational talent; others have supervisory talent; others are very good at curriculum development. In a school system of any size it is important to look over the team and see who has unique talents, and what you can do about them, and not expect all teachers and principals to be the same, or any building to be the same. We should think also of ways in which we can combine principals and supervisors in study teams so that they supplement each other, so that there is a kind of coordinated effort or blending of talents at the administrative and supervisory level."

"A blending of viewpoints, too," suggested Doll. "I believe that in both teachers and their supervisors a good deal of personal development is needed, in-service personal development. I know teachers and supervisors for whom this development ought to be going to the opera, and may I say that I know other teachers and supervisors for whom it might be getting married? We all recognize that certain people need certain kinds of experiences which are not in the workaday world."

Baughman picked up one aspect of the idea of personal development. "Well, it gets down to a very basic question of security. The person who is willing to venture, to take chances has to be a fairly secure person, and there are many factors that make for security. A principal can do a great deal to make a teacher feel secure enough that it will not be any great catastrophe if he ventures out and makes mistakes. We administrators are the basic ones that have to provide that feeling of security."

"The principal establishes the climate within which the teacher is working," Morley interjected.

"Yes! Then the teacher in turn provides it within the classroom. If the principal puts the teacher on edge, the teacher will very likely put the child on edge," concluded Baughman.

Clarifying images is important
in helping principals realize
their potential.

"And if there is a system-wide climate, were you suggesting that the superintendent in the way he works with principals and supervisors establishes this overall climate?" Stover inquired. "I would also say that the climate of the school system will be determined somewhat by the way the central office deals with the building levels, or does not deal with them. I think one of the things the superintendent needs to do is to help the principal realize the image of his own school. In most communities, schools are quite different, even though they are located in the same general environment. I know this is true in our community. The two junior high schools are not going to be the same schools. They do not serve the same population. The elementary schools are not going to be the same. As a result, we have to encourage principals not necessarily to emulate what is done in other schools in the school system because it is outstanding and has received recognition. It may be the wrong thing for a particular school. Each principal must see the image of his own building."

"And principals had better recognize the part they play in developing images," counseled Baughman. "They are going to help develop images whether they want to or not, and they had better make an effort to develop the ones they consider desirable."

"Similarly," said Stover, "here is a situation in which a man may have been principal of a school for many, many years, and has operated in a certain way: permissive, authoritarian, jovial, affectionate, or grim. It would be useless for his successor to think that he was going to function in the school in the same way. In other words, his administrative image is not necessarily going to be what his predecessor's was even though the school as a little community has not changed much. Principals have strengths in working with teachers, and the strengths are not identical. We should not encourage a principal in school A to be like the principal in school B because the principal in school B is successful. The principal in school B is a different person with a different kind of relationship with the faculty of the school."

These comments prompted Morley to direct a question to the elementary school principal. "I am wondering whether you believe that the superintendent does have a responsibility to help you see yourself as others see you? Is this part of his leadership role? Does this enhance your position? Does this strengthen you if you feel the superintendent is helping you see yourself from another vantage point, from his vantage point?"

"Yes, definitely it can be very useful from the standpoint of helping an individual keep his perspective. Just as we talked about the teacher who can occasionally lose his perspective, the same thing can happen to the principal—for instance to the man who takes himself too seriously."

"How do we achieve the same thing for the superintendent?" asked Stover.

Baughman responded to the question by asking another: "Doesn't he have many interactions with people: the principals, the public, the board of education? We all form our concepts of ourselves by the ways people respond to us. Administrators at different levels interact with different groups, but the same basic process takes place."

"I am more sympathetic with the superintendent than I am with anyone else," confessed Doll. "I have the feeling that superintendents serve pretty well as buffers for principals on many occasions, and that principals serve as buffers in their intermediate positions for teachers. Yet there is really nobody in comparable position serving as a buffer for the superintendent. I think the whole function of being a buffer is very important. We talked awhile ago about the importance of mental health. It seems to me there are things we should not know that wisely are kept from us by our superiors. Our potential may be inhibited in its development by knowing certain things at certain times when we are really in the midst of a crucial problem. By the same token, there are things that ought to be communicated to us in ways that will develop the best understanding on our part so that we may move ahead."

"You say ways that develop the best understanding," reiterated Salsbury with an air of doubt, "and yet in spite of all efforts to communicate these things the best way becomes a traumatic experience sometimes. You see, I am questioning whether or not this is always the best thing to have happen—whether or not it does increase one's potential to have him see himself as others see him?"

Baughman also expressed mixed feelings about this point. "Yes, it sometimes becomes dangerous. I know very well what you mean, but you can withhold information until it comes from another source and becomes a crueler blow than if it had been presented in a carefully controlled situation. So you're playing with dynamite sometimes when you do withhold; but again, I have seen just what you are talking about."

At this point, Baughman indicated that he thought it important to discuss present assumptions and ways of working at the elementary school level which might be barriers to getting at children's potential. "Grade level concepts and age level concepts sometimes inhibit and restrict what the teacher can do. Such projects as the Madison Project are going to open the whole question of the child's potential, and whether what a seven- or eight-year-old should experience can be graded. I think we have restricted the opportunities we present children because we have preconceived ideas of what we think they are ready for. These assumptions need to be re-evaluated."

Potential can be affected through plans for organizing schools and through use of materials.

"I think you have hit upon an idea that has many ramifications, namely, the restriction or constriction that results from all sorts of stereotyping, pigeonholing, and labeling we do," Morley added in support. "You have mentioned only a few of the many instances of categorizing which blind us to real potential. There is probably nothing which closes our operation as teachers and administrators more than this. We might mention again the slow learner. We have labeled him thus and to some persons the label immediately says, 'He can't do this, he can't do that!' Perhaps we can talk briefly about other labels that have limited us."

"Take one a little further out," cited Doll. "It is called 'The Community Won't Stand For It.' This affects children and it also affects teachers in their development, for on this basis in-service days, conference days, and blocks of time for curriculum improvement are often excluded from the school calendar."

[illegible] Baughman then picked up again the influence of grade level concepts through graded textbook material. "Certainly if we can see textbooks as tools to be used in different ways in different situations, we will help release potential. If we control the textbook rather than letting the text control us, we'll remove quite a few barriers to learning. We all know that a text that is labeled 'third grade' may be quite appropriate for a child who is in his second year; or it may be quite appropriate for one in his fourth year. The text is a tool to be used, and should not dictate to us the time the child should use it."

"Let me just cite what we sometimes hear ourselves saying to our teachers," Morley volunteered. "We say, 'Complete this book; follow this textbook; this is your program.' When we say this, we can conceivably be saying, 'Teacher, you don't really have the initiative, or you don't carry the responsibility! Teach this book and then you will have discharged your responsibility!' Just as we have done with our specialists, we have sometimes usurped and undercut the teacher's responsibility for his own situation. We have destroyed his role by insisting that he follow to the letter a particular curriculum, even a guide. All the teacher is supposed to do, then, is cue himself to this guide. Here, we are saying the same thing to the teacher. 'Teacher, you can't carry the responsibility. It is this guide that is the really responsible programer in your situation!' "

"This type of approach may lead us into a larger dilemma, though," declared Stover, "because we have teacher turnover to consider. Without the guide or the textbook, I fear that we would be in difficulty. I think it is in the sensible application of the guide and the textbook that we really have to be concerned. I do not think this means we throw either one of them out. We could not possibly function in today's situation without them."

"Some teachers would panic," Baughman concurred. "These teachers need the security of knowing the materials are present. Nevertheless, I believe the possibilities that are open to teachers are so much wider than many teachers conceive them to be."

"I think that this unconscious limitation can be one of the dangers in using the newer instructional projects," contended Doll. "Many people are moving from one instructional program or track to another, adopting the materials that go with the new program. There is no openness in this almost mechanical procedure. The teacher is likely to be just as closed on the new track as he was on the old. An eclectic approach is not in use because we do not want to take time for the thought and in-service development it requires."

"In our school system," said Stover, "we have decided to move from a standard series in arithmetic by installing twelve experimental situations in our elementary schools and asking the teachers to evaluate what is happening. This will be followed, we hope, by an in-service project for about a year before we move to another program. We are trying to avoid saying, 'This is going to be the program. We will have an in-service project for a year, and then we will install the program for which we have prepared the teachers.' Instead, we want the teachers to be ready and convinced before we make a serious move."

Adopting ideas and materials developed by others may prevent the teacher from utilizing his potential.

"Yet, again, don't we want to move in such a way that the end result is that we have surrounded the teacher with resources?" Morley asked. "Whether we develop guides, whether we select textbooks, whether we hire specialists, we want the teacher to be sure that he is in the center, that he is the initiator, and he is the coordinator, and that all we are doing is continually supplying more and more resources for his use. We do not want to furnish prescriptions for him to follow, or gimmicks, or procedures that carry the responsibility for the program. The responsibility is still his, and he must carry the responsibility for his program just as we want the learner always to feel that he is carrying more and more responsibility for his learning!"

"Yes, I think the best illustration in the last three or four years may be the language laboratory," Stover concluded. "There were some schools where language laboratories were put in by administrative decree, and the teachers resisted them. You will find some schools where they were practically never used or used under duress. There are other schools where teachers made a study. They visited other places. Eventually they requested a language laboratory, and it is working."

"Then do you feel, Frank, that they learned to see the laboratory as a resource?"

"As a teaching aid. They did not feel bound to the machine," responded Stover.

"Right," Morley interjected. "They did not see it as something that the administrator brought in and said, 'Here is a new method. This will give us a better program! I'm sorry about you people if you happen to get in the way. We will replace you if necessary!' "

Salsbury clinched this part of the discussion by saying, "We are referring to *freedom,* freedom to do something or not to do it. Teachers often need to feel free not to participate until they are ready to do so."

"An interesting point about the installation of our language laboratory," said Stover, "is that we did not put it into operation the first semester. We had a training period for teachers, but we did not require staff members to participate. They all agreed to take instruction from a member of their own group. They did not use the laboratory until they felt competent and secure in using it. If we had made a requirement, we would have had great resistance."

School-community involvement opens opportunities.

"Involved, sometimes, in teachers' reactions to quick and sweeping changes are a couple of factors," Doll stated. "One of these is the nasty expectations teachers sometimes have about what the administrator will do: he is going to push his idea in spite of our resistance, or he is operating a secret weapon or a hidden agenda. A second factor is the frustration that comes from never having anything evaluated. Education is noted for the piling of unevaluated practices on unevaluated practices. If you are doing something about these two factors, I think you are to be commended."

"Also," returned Stover, "if an administrator is blessed, as I am, with a community that is willing to wait for innovation, he is fortunate. Pressure for innovation without evaluation is tremendous today, and it is generated by many outside forces. The idea of keeping up with the Joneses has spread throughout the curriculum field, and this has led to impetuous action without staff support."

"Aren't we going back to something Ron said a while ago about 'the community-won't-stand-for-it' posture?" Salsbury inquired. "I think our communities will stand for constructive changes if they are well informed and if we keep them involved, and if we are really open in our relationship with them. I do not think we are beginning to make use of the community resources that are provided through other agencies. These agencies are working also to develop the potential of youngsters. We too often operate as a closed shop, saying, 'This is what the school is going to do, period!' I think of what the churches, the recreation departments, and the other agencies are doing, and I feel the need to involve them more."

"If we say the teacher should open his classroom door to invite interaction," Morley remarked, "we should note that both school and school system should open their doors to other agencies which have the same or similar goals. There are some wonderful resources and wonderful people ready to help us. When the citizen comes to us and we know him, he will not look strange and suspect to us. The school has to be made open to the total community situation."

"The statement, 'the community won't stand for it,' is often a cliché or an excuse," Doll asserted. "I know two communities where we discovered that the citizens at large were much more favorable to spending time and money on curriculum improvement than anyone had imagined, including the school administrators. I wonder how often our communities are ahead of their administrators, but I recognize, too, that we are in a new era of pressures. Some of the pressures now come in the form of questions like these: 'Haven't you introduced the SMSG materials into your mathematics program?' and 'Haven't you installed teaching machines yet?' "

"Administrators do not even have to use the community as an excuse for inaction," Salsbury reported. "They may say, 'The business manager won't let us have it,' when the business manager has perhaps never heard of whatever it is. An excuse of this sort is an easy means of getting a teacher with initiative out of one's hair."

Doll now threaded a new tape with the comment, "There can be no release of potential without flicking a switch."

Staff members who show promise can help develop potential in alienated pupils.

While the tape was being changed, the discussion group determined to talk freely from this point onward about miscellaneous problems in releasing potential, beginning with a case or two from school practice. Salsbury spoke of curriculum deficiencies which he and his senior high school staff were seeking to remedy. "We discovered that we had in our economically favored community," he said, "a number of youngsters with varying backgrounds whose potential was not being realized. The reasons for this were many. Some of these reasons were social and economic; some were lack of motivation; and there were others. Eventually we involved 125 staff members, who came up with ideas like these: planning opportunities to change the self-image of the youngster, and providing opportunities to see relationship between cause and effect. Many of the youngsters had not had enough experience in making wise choices. We were interested in a curriculum which would give them opportunities to make choices of various kinds, to arrive at a set of values, their own values rather than values imposed upon them by indoctrination."

"This is a group of pupils that suburban culture had not done much to help with regard to making choices," Doll pointed out.

"That is correct," continued Salsbury. "We came up with the idea of an action team. We felt that all the standard procedures, including use of consultants, were not too effective, and that the only thing that was really going to produce a change in these youngsters was to involve them with the staff members so that we might make greater use of the potential of the staff itself. Some of our teachers are highly creative persons; for example, people in the arts, people in science. One man in science has done a great deal of work with youngsters of this particular sort. We felt that the main key to modification of behavior in these youngsters was involvement, not only of the staff but of the youngsters themselves. To achieve positive change required much involvement. We have really just begun to scratch the surface. We have set up a tenth grade program, but we are convinced that our work must be done much earlier than the tenth year. Meanwhile, we cannot overlook the pupils we have with us. At the same time, though, we are working on an elementary school program in early identification. There are certain characteristics of students and homes that show through."

"Can you name some of these, Carl?" interrupted Doll.

"Let me see if I can: limited reading ability, limited vocabulary so they have difficulty in communication, sometimes a value system which is in conflict with the value system of our community as a whole. That is, their own family value system is in conflict with the value system of this suburban area. Sometimes they have isolated themselves; they are self-isolated from the more fortunate members of the community. And they have limited opportunities of developing adequate self-esteem or self-image because of the nature of the society in which they find themselves. They have limited opportunities for coming in contact with model adults who understand them. These are not youngsters who go to church. They are not associated with the young peoples' groups in the churches; they are not associated with recreation departments."

"Is there a high incidence of divorce and separation in the home?" Doll inquired.

"There is that. There is alcoholism; there is mental illness."

"Do you see some particular ways in which you are going to work with this group? Are you going to use a counselee-counselor approach, or are you going to do some special grouping?" Morley asked.

"I think it is going to be a matter of utilizing some of our specially talented teachers to help the youngsters grow and develop," continued Salsbury. "We have a mathematics teacher, we have a science teacher, we have an art teacher. All of these people have already shown ability to help the youngsters grow. So we are planning a team approach."

"When a team succeeds, will its members help prepare other teams?"

"We hope so."

"Are you expecting that the changed perceptions of staff members working on these teams will be such that however they are involved with individual students, they will work with them differently? Will they see youngsters differently, even when they are members of their own classes?"

"This is our hope. We think so because we find study of adolescence working well with accelerated groups. The methods used with our accelerated groups seem to work with other groups."

"In one school system that I know," said Stover, "a committee was appointed to look into the needs of gifted children. This committee decided that good practice in teaching gifted children was generally good practice in teaching all children."

Morley now turned to Gerald Baughman who, as an elementary school principal, had developed with his staff an ungraded program which had involved teachers in continuous study of their pupils. He asked Baughman to highlight some of the significant values he saw in his staff's cooperative enterprise.

Units developed by the whole school help to reveal and develop potential.

Baughman spoke first of grouping: "There are many elements involved in grouping. We must take into account more than simply chronological age in putting children in common situations. We should take into account achievement, chronological age, mental age, special characteristics—everything we know about them as individuals. Beyond grouping, the staff has wanted to work on common units. We feel that by sharing common experiences throughout the school everyone benefits. We have considered taking several common school units in science and social studies. The one we have done so far is 'Children Around the World' with the entire school working on one unit, each teacher choosing both a geographic area and a specific task. We have found that the common unit provides for a sharing throughout the school of the materials that are developed. There was a resource area available in which materials were shared. Also, the resource people we brought in were shared. People from India, Germany and France shared their materials with the entire school. It was interesting to find that kindergarten pupils can participate in many activities of the school rather than being a separate entity as they are sometimes erroneously considered. Common sharing and everyone's working on a common idea have given us quite an impetus."

Morley added, "This arrangement helps to set the climate for cooperation and for a feeling of oneness within a total situation."

"Yes." Baughman continued. "It permits either an individual or groups to go to other rooms, share what they have, setting up displays in the resource area, and explaining these displays to other groups."

"As I remember the situation," said Morley, "you have sometimes placed children with teachers according to temperament or personality. Even though a child might logically be placed in a given group, you would place him with another teacher who might serve better to 'bring him out.' This is a resource your staff has: differing personalities who can interact with children who in turn have differing personalities."

"Explain how you do the matching from a human relations standpoint," Doll requested. "What is to prevent a teacher whose pupil has been removed from feeling he is inferior to the teacher who now receives the pupil?"

Matching teachers and pupils may be a valuable procedure.

"Well, the teachers are all sharing children. The teacher who first had this child is asked to do a special job with another child, so he has his own task to perform. One complements another. As Frank has indicated, there is often a child who achievement-wise should have been with a younger group and was placed with a younger group, but as time progresses we can sense that the child feels inferior because of this and a number of other things. Because of a negative self-concept that seems to be developing, the child is moved into a more advanced situation, although academically it is difficult. Still the new situation may become an incentive to the individual, so achievement then has to be disregarded in terms of the child's feeling about himself. We do the opposite sometimes. The very bright little fellow, for example, who is not at all working up to capacity is put into a more advanced situation in which he is watched very carefully and this becomes an incentive to him. So achievement is just one of many things that have to be considered when we move a child from one situation to another."

Morley then attempted to expand a bit on what Baughman had been saying. "I think we need to say that staff members will not begin to look at characteristics of individual children until they know that they are in a flexible situation in which something can be done to accommodate such differences. If the situation is not fluid enough so that they can take action to resolve unique individual problems, staff members soon learn to ignore these problems."

"We have teachers who say, 'Such and such a child is having difficulty. May another classroom teacher, the music teacher, the physical education teacher, and I meet with you to discuss this child?' Out of these conferences have come new placements for children because the teacher himself has said, 'I need help with this individual child.' Then, with the combination of about five people and their knowledge of a particular child in different situations, a different placement can be worked out."

"I think many of the things that Gerald has just said here are equally true in secondary schools," suggested Salsbury. "We have tried experiments in segregating children who are not living up to their potential. This does not work, especially in a highly competitive situation. The pupils feel that they can not maintain a good image if they are not having opportunities similar to those which other youngsters have. When we segregate children, we tend to provide a different curriculum for them. To see an English teacher teach *Macbeth* with this type of youngster and try to make certain values important to him is to see a creative teacher realizing the potential in youngsters and helping them develop an improved self-image, because they are doing the things the rest of the pupils are doing. I am certain the teacher does not teach these pupils in the same way as he does the college preparatory youngsters. A science teacher may, for instance, approach science through scientific fallacies and superstitions, something I once happened to see culminate in a terrific bulletin board display. A lot of science was involved here. This was content the pupils knew something about. The teacher started where the pupils were."

"Carl has mentioned a similarity in elementary and secondary school situations," commented Stover. "Before I go on to K-12 programs, I would say that I think frequently we have shied away from the transfer of a child from one situation to another with the idea that we would make the teacher lose face. I think this is not an effective concept if we have good faculty understanding of problems. Just to illustrate what Gerald said, last year we had a child who was transferred from a school he ordinarily would have attended into the room of a third grade teacher who was extremely warm and accepting. He made a fine adjustment. Yet this year the teacher had another child in her room who could not adjust, and this child, too, was transferred to another situation with similar success. So the idea that some teachers can aid adjustment and some can not is not necessarily so. We are dealing with personality elements that are over and beyond the sheer instructional capacity of a teacher.

"On a kindergarten through twelfth grade basis," Stover continued, "representative committees like ours in the social studies are common. I value such committees because they provide some increase in conversation among the levels of education. When a teacher from an elementary school feels that he can speak on equal terms about children's capabilities with a department chairman at the senior high school, this is a valuable experience for both of them. Frequently teachers of high school seniors are just as awed about the successes of the first grade teacher as the first grade teacher is awed at the erudition of the teacher who works with college-bound seniors. If we are to realize potential in teachers, we must prevent them from becoming insular. Teachers should share an understanding of the accomplishments of other teachers."

Morley broached a new topic at this point: "We have talked about pressures on pupils and teachers. I wonder whether the pressure of national goals or national concerns is a force that conflicts with our interest in developing the individual to his optimum. Are there aspects of national concern that run counter to our efforts toward full development of the individual?"

"I think you imply an answer to your own question," acknowledged Salsbury. "The emphasis has surely been on mathematics, science, and the languages. I think we need potential developed in the creative arts, the humanities, and the social sciences to as great an extent. We are sacrificing the potential of some of our people by forcing them into the three 'popular areas' in which they may have less potential."

"Are teachers feeling these pressures?" Morley asked.

"Yes," replied Salsbury, "but I think the pressure is decreasing because the other subject matter areas are being given a little more attention."

"For instance, have some departments acquired a self-image of second-ratedness?"

"Yes," interjected Stover, "in fact in this spring hiring season, some school administrators have been agreeing to pay a differential for teachers teaching in the so-called scarce fields. I know from personal experience this is happening 'with or without benefit of clergy.' I think this practice can only lead to a poor self-image on the part of teachers who are not in the favored group. I'm talking about secondary schools alone. We do not see this yet in the elementary school, but we see it in some phases of special education."

Pressures on teachers and pupils
have come from new sources.

"Yet are not the elementary schools feeling the influence of having K-12 or K-6 science supervisors, K-6 mathematics supervisors, and modern foreign languages in the elementary schools?" Salsbury asked rhetorically.

"I feel that alienation has set in in a new way as a consequence of some of the pressures. I think what we have really done is assume that everyone ought to bear more heat. And some of the metals are not made for more heat," declared Doll. "I have something to document this. Those of us who have used tape recorders in high school cafeterias, getting pupils to respond to questions like 'Who are your friends these days?' and 'How much affiliation do you have with other pupils in the school?' find that in many high schools there has developed a kind of Chinese Wall. Each individual has tended, especially in the gifted groups, to become isolated from other individuals. We have this kind of response registered on the tapes: 'I find my best friends during the summer time.' 'Why is that?' 'Because we are in such intense competition in our school that I can't afford to have a good friend; I don't dare give my secrets away.' Again and again, this sort of thing occurs. I have a conviction that many teachers in our high schools went underground when the first Sputnik blasted off in October 1957, and that they haven't really come out of the ground in some cases. We have failed to distinguish between those students who can take the heat and those who cannot, and right within our ablest groups there are both kinds. I think this phenomenon is relevant to the need for openness and development of potential."

"I agree," observed Stover. "Pressure develops, in part, with reference to both national and local examinations. I find the teen-agers around my house talking about the marks they get on tests more than they talk about what they are learning, or more than they discuss the kinds of things that interest them. It's only when they get off by themselves and start discussing such subjects as psychology, rather than the French or algebra they are taking in school, that they are free."

These comments struck a responsive chord in Carl Salsbury. "We are getting into a whole area of discussion that I think is very important. The pressures and false gimmicks we have in schools make pupils, teachers, and adults in general lose sight of what is important—that learning is intrinsically important. Class rank for instance. Is it more important to rank number two than number three, number seven than number eight? Is not ranking something the schools themselves have developed, something we say national associations and college admissions officers want? I think there are many practices, in the use of tests and everything else, that can be put in better perspective than they are now."

Some pressures come from
long standing malpractice.

"I think another example is the grouping system that exists in some of our larger schools," cited Doll. "For example, if you have ninth grade groups that go to the 22nd exponent, if you have group 9^1 to group 9^{22}, one is led to ask teachers, 'What is the distinction between say 9^{22} and 9^{16}?' Most teachers say, 'We don't know.' But the pupils think they themselves know what their ceilings are as determined by their group numbers, and I'm pretty sure some of them stop trying harder right at that point."

"Well," said Stover, "we are saying that because of pressures, whether from college admissions or other causes, extending at least into the junior high school, we see less love of learning exhibited by students who ought to be able to pursue things along their own lines rather than feel that they are in deadly competition continually. I think teachers feel this competition very strongly, and feel the need to deliver. Perhaps this is not as true where there is no state-wide testing as it is where state-wide testing exists, but it is true nevertheless. There are circumstances in which the youngster who is not college bound has many common interests with the one who is college bound, and there ought to be places in the secondary school for them to have free interchange so they are not in a classified society for the time that they are in high school. As we continue to apply pressures, the chances for such interchange happening become less and less. We have gradually seen even the abolition of the activity period in some junior high schools, and this was one point of which we used to have a common mingling across all kinds of lines. In our area, the activity period has been disappearing at a very rapid rate over the past five to ten years."

"We still have the activity period," inserted Salsbury.

"We have it, too, but I am just saying this is a tendency and it is quite marked. Then there is the gradual diminution of the homeroom. There were formerly, in some schools, homeroom-based guidance activities in which children were heterogeneously mixed for social and guidance purposes. We are seeing more and more stratifications of the homeroom because of the schedule-making possibilities that that permits. All these are practices that tend to downgrade a certain group of students, and perhaps to give a false set of values to other groups," concluded Stover.

The curriculum does not always fit the pupil's need for specific preparation.

"When I visit suburban high schools particularly," said Doll, "I notice a marked distinction between the population some adolescents term impolitely 'the hood group' and the high-achieving, college-bound youth. When the bell rings for start of school in the morning, the youngsters who expect to go to college hurry through the doors so that they will have a few minutes of study time before classes actually begin. They are trying to do some of the work they left undone after midnight the night before. Meanwhile the group we commonly call alienated from school and society stays outside the building as long as possible, huddling together as close-packed peers. And so segregation occurs in a form we have not thought about very much. I wonder, too, what this suggests about conformity, whether everyone who is going to college thinks he has to fit a common mold. Meanwhile, the other segment of teen-age society is forming a mold of its own.

From the viewpoint of American society, we may be developing a situation that is unfortunate and even dangerous."

"In Pennsylvania last week," Salsbury reported, "I visited a high school where there are business education, college preparatory, and vocational agriculture programs. Probably 50 percent of the pupils will end in technical work of some kind, work affected by automation. Pupils are being trained for agriculture who will not be in agriculture. We are not giving pupils opportunities to develop potential in situations in which it will count. This is as true in schools with strong college preparatory programs as it is elsewhere. Maybe there are 25 percent of our youngsters who should be preparing for technology rather than for college."

"One might notice what happens in the colleges," suggested S[illegible]r. "When we interview teachers, one of my favorite questions is, 'What books have you read lately?' I must say that I am not too happy about the answers, and I do not blame the respondents. Most of them say, 'I have been so busy with the pressure of college, reading so much required material that I have not had time to pursue my own interests.' Then I recall that the most successful teachers I have known were fascinated with their subjects, had side interests they pursued, and were able to entice youngsters into following along the same trail. I am not speaking now of any one group of colleges, but I think this is a fairly general situation, though we do find the exception. Maybe I do not interview the right people! Have you had this same experience?"

Interests and abilities of teachers and pupils should be extended rather than curbed.

"Yes, I have. Again, it is the pressures they feel," responded Salsbury.

"I am wondering if there is not a counter pressure or force developing," Morley hypothesized, "in the work of Guilford and Torrance and Taylor and Barron on other dimensions of intelligence. Then also some cracks may be showing in the admissions offices where they are reconsidering whether or not they really get persons who are productive and able to do divergent thinking, persons with some real interests and divergent personalities as well as ability to produce routine, required reports. Do you think that there may be some counter movement developing? It is said that the situation is changing a little bit, that the pressure is not as great. Well, is it? Is some of the change resulting from a counter pressure?"

"I think there is a second look. People are beginning to think there is a place in life for some other things besides the routinely academic," asserted Salsbury.

"Actually," Morley continued, "people writing on other dimensions of intelligence are concerned with somewhat the same theme that we have been thinking about here; namely, that there are many dimensions to potential."

"Some of the national organizations in education have become interested in academically nontalented pupils," Salsbury reminded the group.

"There is danger in just thinking of new categories and not really isolating components of intelligence. In talking about the nonacademic, the overachiever, the underachiever, we have done a lot of generalizing. I personally do not think that such an approach will prove as rewarding or productive as approaches for looking, for instance, at divergent thinking, which is necessary as a part of any person's operation at whatever level and in whatever situation he may find himself," Morley concluded.

"I have a notion that the factor of mental health is going to be more and more prominent in the next five to ten years," Doll conjectured. "It may be that some of the things we are doing in schools will be revealed clearly as having either little or no value in encouraging mental health. I think more and more funds will be channeled into this cause."

Wise use of newer instructional media is needed

Stover suggested still another topic. "Well, maybe we could make another attack by talking about the influence of the new media on release of potential. We are speaking of pressures and national campaigns, and of course we have heard a great deal about such things as programed learning, the teaching machine, and the use of educational television in extending the talent and capacity of master teachers as well as in benefiting from psychological thinking in its application to electronic devices. We had an experiment with programed learning in the junior high school last year and one in the senior high school this year. We found that programed learning was more usable with the medium and lower ability groups than with the upper. This was also the general finding in several nearby communities that experimented with quite different pupil populations. A symposium of teachers who were involved in the experiment revealed that most of them felt that programed instruction, to be effective, needed to provide more opportunities for individualized instruction.

"One of the current difficulties was that most of the stimulation of the good teacher and the stimulation of other pupils was almost nonexistent. The bright pupils did not like this because they wanted a chance to exchange views and challenge ideas, to ask questions and make comments. So the idea that this teaching procedure would supplant the individualized approach to instruction or would make possible instruction of much larger groups did not seem to work out in actual application as far as we know from the experiment. I believe that the teachers who worked with programed learning felt that here was a tool which, if it were used in conjunction with good classroom interaction, could be helpful. One conclusion I drew from my brief experience was that the developers of programed materials ought to go out to where classroom teachers are using the materials and talk freely with them to see how different the application could be in actual practice. I see prospects in the procedure, but by trying to apply a mass approach without using the critical judgment of teachers, we could miss an opportunity for developing a good instructional procedure," concluded Stover.

"In reference to what Frank is saying," added Doll, "a newly published book on the secondary school curriculum says we shall have, in the future, large group instruction and also skills laboratories in which teaching machines and programed materials will be in use. Yet we shall surely need teachers who can work with ten or twelve pupils at a time to try to get meaning from our rapidly expanding knowledge. Teachers who can help pupils find meaning in their world will be prime developers of human potential."

Employment and recreational opportunities for youth should be explored.

"Another interesting comment someone made informally before we began our recording is that the child at home is actually saying that there is nothing for him to do, that he feels unoccupied, disengaged. Maybe he feels the same way about the community, too. Is this a concern?" Morley asked. "What is the consequence, for example, of having certain age groups finding less and less to occupy them? Legitimate employment seems to be more and more deferred, especially for older adolescents and young adults. If teen-agers know this fact, their attitude may resemble ours when we faced the draft, which they are also facing. What is there for them to reach for? What can they become curious and excited about? Is there anything the school can do to salvage them?"

"There had better be," was Salisbury's concerned reply.

"You are asking a question I cannot answer," Stover responded. "We are considering this problem in our state, but I have not found anybody who can tell us much about its solution. We are talking particularly about the non-college bound student. Here, we are trying chiefly to provide recreational activities, which are complicated by the presence of the automobile. The older teen-ager often has neither employment nor satisfying recreational activity."

"It is awfully hard to develop your potential without a motive," professed Salsbury. "I think I would like to conclude with a saying by Louis

Raths: 'If we treat people as they are, they will become worse than they are. If we treat them better than they are, they will become better.' "

"So this is one thing that the school can do," Morley said hopefully. "It can maintain goals which exceed those which the pupil might have for himself, those which parents might have for their children, or those which a community might have for its citizens. If the school maintains goals worth stretching for, it is a truly dynamic agency in our society. It should hold forth an image a little larger and a little higher than the people hold for themselves."

With these words, the panel of five persons concerned with the roles of supervisors and administrators concluded a two-hour discussion. At the conclusion of the discussion, the sentiments of the panelists were mixed. First, they felt humble because of the inadequacy of the treatment which they had been able to give to several major issues and concerns, and because of their failure even to mention certain other issues and concerns. Yet they were satisfied that they had opened to further analysis and inquiry important ways of aiding release of potential in teachers and, through teachers, in pupils, and that they had identified several barriers to release of potential. Primarily, however, they themselves had come to see the great significance of supervisors' and administrators' roles in performing an eminently necessary task.

Conclusion/A Composite of Ideas About Release of Potential

The Yearbook Committee

IN THE preceding chapters, we have advanced ideas about release of potential which, in some instances, may have become lost in the structure of the chapters themselves. We wish, therefore, to reemphasize several significant ideas in this concluding section of the volume.

First, we have made certain basic assumptions about the nature of human potential and about its discovery and development. Potential is frequently unpredictable, and it is literally almost limitless. Furthermore, it is personal and individual; hence, the teacher who would release potential in his pupils must know them as individuals. Potential is also multidimensional, appearing in multiple forms in the individual learner and spreading widely into areas of human accomplishment which have been examined but little. It can be discovered and developed by the classroom teacher within the context of warm human relationships and desirable teaching practices.

The Committee responsible for this volume has recognized that certain barriers to discovery and development of constructive potential exist in elementary and secondary schools. Some of these barriers are as age-old as disinterest and unconcern. Others arise in our current culture and the present educational milieu. A few of the barriers are particularly worthy of mention. The first of these is the fact of alienation of the individual from opportunities to release his potential. Sometimes, as we have noted, alienation originates in cultural deprivation or in segregation, a phenomenon which comes in a variety of guises. Yet alienation is by no means limited to persons of low socioeconomic status, for privileged children experience alienation which is peculiarly their own. And the schools themselves have much to do with alienating learners from opportunities which can be provided by insightful, empathetic teachers, cooperative peers, and stimulating materials and equipment.

A consequence of alienation is development of an unfortunate, inadequate or unreal self-image. The learner's self-image can, however, be focused and appropriately magnified through the process of interacting with teachers who desire to help him develop potential. To be at his best in this respect, the teacher must achieve openness in his relationship with pupils. At present, one of the major barriers to release of potential is the tendency of many teachers to remain closed in their interaction with learners.

The precious human material with which the schools deal requires, in our day, a launching platform of values and goals from which discovery and development of potential may proceed. Because of growing cultural pluralism and of personal factors which in turn relate to social forces, pupils in American schools readily lose their way, follow paths of conformity, or find themselves unable to visualize the bright future they deserve. Because of the needs of these pupils and the great waste of potential which unquestionably occurs at any time or place, the committee has sought to propose several promising ways of releasing potential through teaching.

These promising ways include:

Observing and listening to learners with increased care and concern

Becoming more sensitive to clues which indicate how teachers can help

Achieving openness in pupil-teacher relationships, to permit improved response and interaction

Helping learners toward the objective of personal relevance and, as practiced by supervisors and administrators, helping teachers to the twin objectives of personal and professional relevance

Recognizing and accepting different ways of responding, according to learners' individualized styles and needs

Stimulating creation and re-creation of a self-image that encourages further development

Taking directly into account the presence of such barriers as alienation, cultural pluralism, and unconscionable pressures

Questioning, probing and responding in ways that lead learners to assume responsibility

Standing aside judiciously to let the learner discover and exercise his own resources

Shifting one's vantage point for viewing learners in action

Placing learners in varying roles

Making development of the learner the chief goal in teaching subject matter

Achieving free affective response and seeing its relevance to intellectual development

Helping learners find order, pattern and meaning in phenomena

Establishing a school environment that encourages teachers to be empathetic and helpful to learners and to each other

Achieving free and constructive communication with learners

Respecting experimentation and supporting experimenters in both their failures and their successes

Helping learners sense the living dynamic of man's creations, as revealed by history and the current scene

Clearing the way, by whatever means, for stretching learners' minds and abilities in creative, self-fufilling endeavor.

The Yearbook Committee hopes that it has suggested several lines of inquiry concerning procedures by which the schools can aid discovery and development of constructive potential in learners. An area of concern which is both so little explored and so needful of exploration must and should be left open-ended. Further consideration of choices and problems in releasing such potential through teaching is essential to the realization of America's future. The committee urges American teachers to undertake this important task.

Appendix

Some Recent Inquiry Concerning the Theme

INQUIRY concerning discovery and development of human potential is increasing. Much of this inquiry is being conducted by psychologists who are interested in cognitive learning, in learning by discovery, in the disadvantaged child and the learning process, in strategies of learning, in characteristics of successful school achievers, and in a variety of other fundamental matters.

The Center for Cognitive Studies at Harvard University, The Learning Laboratory and Research Center at the University of Wisconsin, and the Institute for Developmental Studies of the New York Medical College are but three of the organizations now investigating problems which affect discovery and development of potential. In addition, research projects of the Cooperative Research Program are being conducted by individuals and teams under auspices of the United States Office of Education. Many of these projects bear directly upon testing, instruction, and guidance of pupils who are considered to have special need for release of potential.

Occasionally one encounters in the literature and in private descriptions of experiments in teaching examples of curriculum content and teaching procedures which appear to be useful in freeing learners' potential. A few of these examples follow. The examples were chosen because of their presumed special interest for classroom teachers who are concerned with ways of individualizing instruction.

Developing the Gifts of Young Children in Various Areas of Mental Ability

Frederick B. Davis and his associates have devised tests of mental abilities to supplement the Stanford-Binet Test in testing children between the ages of about four years, three months and five years, three months who are candidates for admission to the Hunter College Elementary School, New

York City.[1] The tests include measures of five basic competencies: space conceptualization, vocabulary, number ability, reasoning, and scientific knowledge. They are unspeeded power tests that include a variety of activities of interest to young children.

Scores resulting from administration of the five tests and the operating requirements of the Hunter College Elementary School were used as criteria for organizing an experimental first grade class of 30 children. The class included six children with the highest scores in each of the five areas of mental ability.

A control class of 30 children was selected on the basis of high intelligence quotients as determined by the Stanford-Binet Test. At the time of their admission to school, members of the control class and the experimental class had attained ages ranging from four years, eleven months to five years, eleven months.

Two investigators, Maybury and Lesser,[2] developed a teaching program for the experimental class. This program was designed to supplement the regular program for gifted children by placing special emphasis on each of the five areas of mental ability. The investigators hypothesized that special programs would increase participation and productivity in these areas, and that children gifted in an area would receive special benefit from instruction in that area. The school's daily program required a three-hour morning session for the whole class, followed by lunch and an hour's work on a different assignment each week. For the experimental group, the hour was dedicated to the special programs.

Special programs introduced much content not usually taught in the school. Activities in the special area included making maps and diagrams, laying out city plans, discussing subway and street maps, examining and preparing scale drawings, and drawing simple objects in perspective. Children tried finding the vantage points from which perspective drawings were prepared, estimating lengths and directions, building three-dimensional designs, and doing Japanese paper-folding.

In the verbal area the children wrote poetry, discussed words and the development of stories, and practiced communicating ideas. They compared differing languages, engaged in creative storytelling, and discussed literary criticism and word construction.

[1] Frederick B. Davis, Gerald S. Lesser, Elizabeth G. French, *et al.* "Identification and Classroom Behavior of Gifted Elementary School Children," in *The Gifted Student*, OE-35016. Monograph No. 2, *Cooperative Research Monographs*, United States Office of Education, p. 19-32.

[2] Margaret W. Maybury is a teacher in the Hunter College Elementary School, and Gerald S. Lesser, now at Harvard University in charge of the Laboratory of Human Development, is a former Associate Professor assigned to the Educational Clinic, Hunter College.

The numerical area involved making the children familiar with geometric figures, fractions, averages, numbers needed to balance groups, Roman numerals, using money, telling time, and experimenting with the abacus. Other content included sequence of numbers, measures of central tendency, principles used in comparing groups, the value of zero, and the uses of tens and hundreds columns.

Lessons in reasoning emphasized verbal and pictorial analogies and similarities, the uses of symbols to express ideas, interpretation of pictures, representation of abstractions, and discussion of extrapolation.

Finally, the science area dealt with demonstrations and experiments relative to the nature of air, air pressure, and air currents. Some of the experiments were advanced enough to be mastered by only part of the group. The pupil experiences listed in the preceding paragraphs are only representative of the many opportunities which were included in each of the areas.

To determine effects of the teaching programs, the investigators made two separate comparisons of children's classroom behavior. The first comparison noted the progress made by the different mental ability groups in the experimental class; thus the first comparison answered the question, "Did the selection tests identify children who would benefit especially from the specialized teaching programs?" The second comparison was an experimental *vs.* control comparison in which the new methods of selection and instruction were pitted against more traditional methods.

To compare the effect of the special program in one area on children gifted in that area with its effect on children gifted in other areas, the investigators divided the school year into quarters, with each group receiving instruction in its area for half the afternoon period daily. During the other half of the afternoon period, each group worked in a different area each quarter. Every child had, therefore, four times as much help in his specialty as other children who were not in his group, and every child had an equal amount of exposure to his non-specialties. Sources of the data used in making comparisons included specially-prepared achievement tests, the Science Research Associates Primary Mental Abilities Test, and classroom observations which were conducted seven hours weekly.

Having hypothesized that the special teaching program in an area would result in greater learning among children found to be gifted in that area than among other children in the experimental class, the investigators found that children gifted in four of the five areas gained more than the average of their class as a consequence of special instruction. The exception was children gifted in science. Actually, both the "space children" and the "science children" gained more than the average of the experimental class from instruction concerning space. Both the "number children" and the "space children" proved to be better than the average in numerical ability, and both the "reasoning children" and the "science children" excelled in activities involving reasoning. The children with strong verbal aptitude were alone in exceeding the records of other pupils in verbal activities, while children gifted in science did not make better-than-average gains in science activities.

The seven-hour-a-week classroom observations revealed the number of correct responses made by the children in each area of specialty, the number of "major responses," the number of volunteered versus called-on responses, and the number of responses made in terms of one's specialty though the current discussion was in another specialty. All the groups except the one in reasoning responded more often in their areas than might have been expected by chance, and the children often mentioned their own specialties even when the situation did not warrant such mention.

Informal subject observation of the groups showed that:

The spatial group was unusually exuberant and kinetic.

The numerical group was somber, dedicated and serious.

Other behavioral differences among the groups were noted. Frequently they seemed to see the same project differently. For instance, for Valentine's Day the spatial group built a three-dimensional pop-up valentine, and the verbal group wrote a poem to celebrate the day. On another occasion, when the teacher read the poem *Autumn Leaves,* by Robert Louis Stevenson, the verbal group composed its own poem and the science group discussed mulch.

Interesting incidents occurred as a consequence of the children's school experiences. For example, the following conversation between two five-year-olds was overheard in a school corridor:

"Now let's see. If A is greater than B, and B is greater than C, then A must be greater than C."

"Yes, that's right. But how about this? If A is greater than B, and if A is greater than C, then you can't tell which is greater, B or C."

When results achieved by administering the Stanford-Binet Test to the experimental and control groups were compared, the experimental class's mean score was 132 and the control class's mean score was 153. The difference may possibly be attributed less to difference in mental ability than to the fact that parents and psychometrists knew the scores of the control group would be used as a criterion for admission to the school, whereas members of the experimental group were admitted according to other criteria. At any rate, the experimental group did as well as or better than the control group on a series of achievement measures used at the end of the school year.[3]

The investigators felt that they had discovered some initial answers to their questions concerning participation, productivity, and the benefits to be derived from special instruction for pupils of particular abilities.

Training Children To Inquire

At the University of Illinois, motion pictures and question-and-answer procedures have been used by J. Richard Suchman and his aides in teaching elementary school children strategies of scientific inquiry. Brief films of physics demonstrations suggest questions of cause and effect. The children then ask their teacher questions which can be answered "yes" or "no" to help them assemble data necessary for making hypotheses of cause and effect. The teacher's purpose is to verify observations, not to give away answers. For instance, a demonstration involving use of a heated brass ball and a brass ring has resulted in the following dialogue:

Pupil: Were the ball and ring at room temperature to begin with?

Teacher: Yes.

Pupil: And the ball would go through the ring at first?

Teacher: Yes.

Pupil: After the ball was held over the fire it did *not* go through the ring. Right?

Teacher: Yes.

Pupil: If the ring had been heated instead of the ball, would the results have been the same?

Teacher: No.

Pupil: If both had been heated, would the ball have gone through then?

Teacher: That all depends.

Pupil: If they had both been heated to the same temperature, would the ball have gone through?

Teacher: Yes.

Pupil: Would the ball be the same size after it was heated as it was before?

Teacher: No.

Pupil: Could the same experiment have been done if the ball and ring were made out of some other metal?

Teacher: Yes.[4]

The children are taught to use a three-stage plan in developing logical, systematic approaches. First, they are asked to identify, verify, and measure the parameters of a given problem. In this process, they identify objects, observe the properties of these objects, note the conditions or states of the objects, and discover changes in the conditions. Second, they determine the relevance of particular conditions in producing the events of a scientific episode, for all conditions are not relevant. Third, they formulate and test theoretical constructs that show relationships among the variables of the observed physical event. This action calls for flexibility and imagination in asking questions.

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[3] Davis *et al., op. cit.*

[4] J. R. Suchman. "Inquiry Training in the Elementary School." *The Science Teacher* 27: 42-47; 1960.

Training sessions of an hour or less are held at intervals of several days. A silent motion picture of a physics demonstration is shown. This picture raises questions about cause and effect, and the children begin immediately to ask probing questions which are to be answered "yes" or "no." "Yes" and "no" questions test hypotheses; therefore the teacher who answers them is helping them to establish the tenability or untenability of their hypotheses. During the first stage, the children ask questions of verification. During stages two and three, they ask questions of an experimental nature, stating a set of conditions and postulating a result. Here, the teacher's answer tells whether the postulated result will or will not occur. If the teacher cannot give an unequivocal answer, he says, "That all depends," or "Tell me more," indicating that the child's "experiment" has not been sufficiently controlled. When children try to tap the teacher's understanding, the teacher's response may be, "What could you do to find out for yourself?"

After the period of inquiry through questioning, a critical review of the process is conducted by teacher, pupils, and any observers who may be present. From this review, the children are expected to learn improved strategies of inquiry. The children apparently have little interest in improving their inquiry skills *per se*, but they are willing to improve them in the context of understanding cause-and-effect relationships. The children used in the experiments have often been at sixth grade level.[5]

Conclusions Concerning the Demonstration Guidance Project

In 1957, New York City's Demonstration Guidance Project began at George Washington High School in Manhattan. A total of 365 pupils, 54 percent of them Negro, 26 percent Puerto Rican, 18 percent white, and 2 percent Oriental, entered the project from Junior High School 43, where pupils with good records of scholastic achievement had been selected. The success of the project has now caused it to be continued under the better-known title "Higher Horizons Project."

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[5] From information provided by J. R. Suchman, Director, Studies in Inquiry Training, University of Illinois, Urbana, Illinois.

The Demonstration Guidance Project itself, which concluded in June, 1962, had the following characteristics:

1. It was an attempt at cultural enrichment and special counseling.
2. It provided for an additional annual expenditure of $250 a pupil.
3. It offered pupils a college preparatory program which was sometimes set aside in favor of a general program.
4. It maintained smaller-than-usual class size: in language and mathematics, from 10 to 15 pupils; in science and the social studies, about 25 pupils.
5. It programed each pupil for a double period in English daily.
6. It permitted cultural mixing by allowing pupils from another neighborhood to enter the project's classes other than those in language and mathematics.
7. It sponsored cultural activities including visits to museums, libraries, colleges, industrial plants, concerts, and theaters, as well as a culminating trip to Washington, D.C.
8. It included among its guidance services individual counseling, clinical services, group guidance activities, and placement in colleges and jobs.[6]

Evaluation of the project was achieved by measuring scholastic achievement, studying admissions to colleges, and gauging the opinions of pupils and teachers about the project. According to evaluation data supplied by the high school,

> . . . two and a half times as many [pupils] earned academic diplomas compared to the past; more than three and one-half times as many went on to higher education. Of the academic graduates, 89% continued on to higher institutions; of those who finished with general diplomas, 43% continued. In each graduating class, project students took highest honors and finished at the top of classes eight to nine hundred in size—something their predecessors were not able to achieve. Some 40% of the students who earned academic diplomas did so despite the handicap of coming from broken homes. And finally, only 22% of the project students dropped out—a rate well below that of the school and one-third lower than that of the rest of the city.
>
> There were many results not to be measured statistically; we saw these boys and girls at theatre, concert and the ballet on their own; we saw them reading the best literature. We thought we could see important differences in the personalities of many of these young people; there was a poise, a maturity and a sense of self-worth; many had a new image of themselves and a much greater certainty that they could make their own futures.[7]

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[6] Henry C. Hillson and Florence C. Myers. *The Demonstration Guidance Project 1957-1962.* New York: George Washington High School, May 1963.

[7] *Ibid.*, p. 27.

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